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WILSON COUNTY TECHNICAL INSTITUTE

WILSON, NORTH CAROLINA

CALENDAR

1968

JANUARY

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GENERAL CATALOG

OF

WILSON COUNTY TECHNICAL INSTITUTE

902 HERRING AVE.

WILSON, NORTH CAROLINA 27893

Telephone 237-1195

VOLUME VI

1968-1969

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PROGRAMS OF STUDY

Two-Year

Electronics Technology

Drafting & Design

Air Conditioning and Refrigeration

Transportation Maintenance

Mechanical Manufacturing

Agricultural Implement Technology

Police Science

Executive Secretary

Accounting

Business Administration

Traffic and Transportation

One Year or Less

Practical Nursing

Automotive Mechanics

Diesel Mechanics

Machine Shop Operator

Electronic Servicing

Welding

Heavy Equipment Operator

1967/68 SCHOOL CALENDAR

FALL QUARTER

Registration & Orientation	September 5
Classes Begin	September 6
N. C. E. A. Day	October 17
Classes End	November 22
Thanksgiving Holidays	November 23-27

55 DAYS

WINTER QUARTER

Registration	November 28
Classes Begin	November 29
Christmas Holidays	December 18 - January 1
Classes Resume	January 2
Classes End	February 28

55 DAYS

SPRING QUARTER

Registration	March 4
Classes Begin	March 5
Easter Holidays	April 10 - 15
Classes Resume	April 16
Graduation	May 24
Classes End	May 24

55 DAYS

SUMMER QUARTER

Registration	June 5
Classes Begin	June 6
Holiday	July 4
Classes End	August 22

55 DAYS

SCHOOL CALENDAR 1968-69

(Tentative)

FALL QUARTER

Orientation	September 9
Registration	September 10
Classes Begin	September 11
Classes End	November 27
Thanksgiving Holiday	November 28—December 2

WINTER QUARTER

Registration	December 3
Classes Begin	December 4
Christmas Holiday	December 23—January 1
Classes Resume	January 2
Classes End	February 28

SPRING QUARTER

Registration	March 5
Classes Begin	March 6
Easter Holiday	April 4—11
Classes Resume	April 14
Classes End	May 29
Graduation	May 30

SUMMER QUARTER

Registration	June 4
Classes Begin	June 5
Independence Holiday	July 4
Classes End	August 22
Graduation	August 22

HISTORY AND LOCATION

The Wilson County Technical Institute was established in early 1958 by authority of the State Board of Education. The establishment of schools of this nature was part of the state-wide system of Industrial Education Centers, which have experienced tremendous growth in this decade.

Classes were first held in the Charles L. Coon Annex. In 1958, Wilson County appropriated approximately $200,000 in County funds for the construction of the existing plant. Ground breaking took place Thanksgiving Day 1958. This made the Wilson Industrial Education Center the first such center to break ground. This established the Institute as a pioneer in technical and trade education in North Carolina.

In early 1964, the Wilson Industrial Education Center's name was changed to Wilson Technical Institute and given the authority to grant the Associate in Applied Science Degree.

From the first hundred students, the word was carried across the back fence, across the counties, and across the State, until the present enrollment filled to capacity, not only the original building, but labs, shops, and necessitated the construction of a new classroom structure. In addition to the two classroom-laboratory buildings, separate facilities are provided for welding, automotive, agricultural implements, and heavy equipment instruction. Approximately 50,000 square feet of space are available for instruction and related studies of the Institute.

Since the origination of the school outside the regularly scheduled curriculum courses, the Institute has offered a wide variety of programs devoted to the individual and his community. Firemanship instruction, police training, nurse's aid instruction, communications, salesmanship, supervisory skills, homemaking, and art are just a few of the programs designed to stimulate the residents of Eastern North Carolina.

In addition to the attention Wilson Tech has received across the state, international visitors from Brazil and Thailand and other countries have come to investigate the facilities and curriculum offerings. In 1966, the school accepted its first foreign student from Thailand who also acted as an instructor in the Automotive Technology.

This Institute was designed to serve the needs of Wilson County and Northeastern North Carolina. Located at the northern edge of Wilson on Highway N. C. 42 and U. S. 301-A (902 Herring Avenue), the Institute is easily accessible from all points.

BOARD OF TRUSTEES

Groves Simpson ..... Chairman
Paul Dickerman ..... Vice-Chairman
Salvatore DelMastro ..... Secretary

MEMBERS	TERM EXPIRES
Paul Dickerman	JUNE 1975
Thomas McClees	JUNE 1975
Mrs. Maybelle H. Watson	JUNE 1975
Jack P. Humphrey	JUNE 1973
Groves Simpson	JUNE 1973
Delmon Williamson	JUNE 1973
George H. Adams	JUNE 1971
Robert E. Dew	JUNE 1971
John Webb	JUNE 1971
J. T. Boykin	JUNE 1969
Carl Smith	JUNE 1969
J. N. Whitley	JUNE 1969

ADMINISTRATIVE STAFF

Mr. S. DelMastro ..... **President**

B. S., Business Administration, University of Miami; New York University State Teachers College; M. Ed., University of North Carolina, Chapel Hill; Post Graduate work at University of North Carolina and North Carolina State University at Raleigh, North Carolina.

Mr. Rufus S. Swain ..... **Director of Technical and Vocational Education**

B. S., Mathematics; M. Ed.; Advanced Administration Certificate; and Doctoral Study at University of North Carolina at Chapel Hill.

Mr. Murphy Woods ..... **Business Manager**

B. S., Business Administration, Pembroke State College; Graduate work in Engineering, Northeastern University.

Mr. Brockman L. Plauche' ..... **Director of Student Personnel**

B. A., University of Miami; M. Ed., East Carolina University; additional study at Texas A. & M., Penn State, University of Maryland (Far East Studies), Edinboro State Teachers College.

Mr. William T. Buchan ..... **Counselor**

BBA, Georgia State College; MA ED, East Carolina University; Graduate work at Emory University and Montana State College. Five years experience as Textile Colorist. Eight years College Chemistry Instructor.

Mr. Frank L. Eagles ..... **Director of Evening Programs**

BS, Industrial Relations, University of N. C. at Chapel Hill; MA ED, East Carolina University. Additional work at Atlantic Christian College.

Mr. Frank R. Irvin ..... **Director of Extension**

BS, Commerce, University of N. C. at Chapel Hill.

Mr. William E. Ferrell ..... **Director of Adult Education**

BS, North Carolina State University at Raleigh, Graduate work at North Carolina State University at Raleigh.

Mr. Glenn Wheeler ..... **MDTA Supervisor**

AB, Atlantic Christian College; Advance study at North Carolina State University; 15 years vocational experience.

Mr. Billy Saulter ..... **Area Fire Consultant**

12 years experience Fire Service, including instruction in Fire Schools.

FACULTY

Mr. Vernon Stephen Aycock ..... **Math & Science**

B. S., North Carolina State University at Raleigh, N. C.

Mr. Roy Barrow ..... **Physical Science**

AB, East Carolina University; MA, North Carolina State University at Raleigh, N. C.

Mr. Eugene Brock ..... **Heavy Equipment**

12 years experience as operator, grade foreman and superintendent.

Mrs. Elizabeth M. Bunn ..... **Practical Nurse Education**

BSN, Duke University, Durham, North Carolina.

Mr. Howard Carlson ..... **Air Conditioning**

Lindsay Hopkins Vocational School; General Electric School; North Carolina State University; 25 years experience.

Mr. John Daniel, Jr. ..... **Math & Science**

AB, Atlantic Christian College; Graduate Studies, Longwood College; 5 years teacher and principal.

Mr. Donald Wayne Bryant ..... **Business**

BA, Wake Forest University; MA, University of Georgia.

Mr. Jimmy Dale Howell ..... **English & Social Studies**

BA, St. Andrews College; Graduate work at East Carolina University.

Mrs. Patricia Jefferson Gautier ..... **Business**

B.S., Business Education, Atlantic Christian College; Additional work at University North Carolina at Greensboro and East Carolina University.

Mr. Lawrence Jones ..... **Heavy Equipment**

7 years experience.

Mr. Marvin Joyner ..... **Drafting**

AAS, Wilson County Technical Institute; Additional work, Atlantic Christian College.

Mr. William F. King, Jr. ..... **Learning Lab. Coordinator**

AB, Guilford College; Louisburg College.

Mr. G. Wayne Merritt, Jr. ..... **Drafting**

BS, East Carolina University; M. ED., North Carolina State University at Raleigh. Business experience in engineering and drafting.

Mr. Luther B. Mozingo ..... **Heavy Equipment**

Armed Forces Training School; Wilson County Technical Institute; 16 years mechanical experience.

Miss Nancy McBrayer ..... **Librarian**

BA, Lynchburg College; MS in Library Science at University of North Carolina at Chapel Hill.

Mr. William B. Nowell, Jr. ..... **Mathematics**

BS, North Carolina State University, Raleigh; Graduate work at East Carolina University, Greenville, N. C.

Mr. Warren Page ..... **Automotive**

U. S. Marine training in mechanics; 17 years experience in automotive mechanics, maintenance and repair.

Mr. William T. Pope ..... **Welding**

A. B., East Carolina University; Welding Diploma, Wilson County Technical Institute.

Mr. Fred Rasino ..... **Machine Shop**

Greer Hydraulics; Aviation Industrial Test Equipment; Long Manufacturing, 15 years experience.

Samuel A. Silver ..... **Counselor & Instructor**

B. S. North Carolina State University; . B. A. University of Georgia; L. L. B., University of Mississippi; L. L. M., George Washington University.

Mr. J. Henry Respess, Jr. ..... **Agricultural Equipment**

MPCI, North Carolina State University, Raleigh; Automotive schools; 26 years experience.

Mrs. Jo Anne Rodri ..... **Practical Nurse Education**

R. N., Rex Hospital, Raleigh, N. C. Additional work at N. C. State University at Raleigh.

Mrs. Catherine Smith ..... **English**

AB, Guilford College, Greensboro, N. C. Experience in Public Schools.

Marian Hildabrand Spencer ..... **Practical Nurse Education**

B. A., Blue Ridge College: R. N. John Hopkins School of Nursing,

Mr. Eldon Strickland ..... **Machine Shop**

Newport News Ship and Dry Dock Apprentice School; Study at North Carolina State University and Atlantic Christian College.

Mr. R. Conrad Stowe ..... **Transportation Maintenance**

MDCI; North Carolina State University at Raleigh; Vocational Institutes; 26 years experience auto repair.

Mr. Grover C. Taylor ..... **Electronics**

B. S., Electrical Engineering, Georgia Institute of Technology; Holds first class FCC License.

Mr. Richard E. Thomasson ..... **Accounting**

BA, William and Mary College; J. D. (Law) UNC at Chapel Hill.

Mrs. Mary R. Vose ..... **Practical Nurse Education**

BSN, Medical College of Virginia; New Jersey State Teacher's College; University of Richmond.

OFFICE STAFF

Mrs. Mary C. Irvin	Bookkeeper
Mrs. Ann Page	Assistant Bookkeeper
Mrs. Evelyn R. Smith	Night Secretary
Mrs. Margaret R. Smith	Admissions Secretary
Mrs. Evelyn C. Barnes	Secretary
Mrs. Isabel J. Murphy	Secretary
Mrs. Joyce Vick	MDTA Secretary
Mrs. Gail Sullivan	Consultant's Secretary
Miss Marjorie Winstead	(NEED, INC.) Secretary
Mrs. Sherrie Aldridge	Secretary
Mrs. Audrey Leapley	Secretary
Mrs. Carol Godwin	Secretary
Mrs. Barbara Humphrey	Secretary
Miss Judy Wood	Receptionist

FOREWORD

In this day of I. C. B. M.'s, moon satellites, automation, synthetics, and many other wonderous discoveries to come, it is essential that thoughtful consideration be given to the methods of maintaining and servicing these vital machines and equipment in industry. North Carolina is cognizant of this prevalent situation and giant strides have been taken through the Technical Institutes, to lead the way in the realization of these services.

Among the aims and objectives of the Wilson County Technical Institute, is to provide technical training, with its attendant upgrading (terminal) program as well as special and supervisory training, to meet the needs of our rapidly expanding and diversified industrial activity. Even with the latest invention or automation device, the role of the technician becomes of paramount importance.

Our state has a vast reservoir of manpower, transportation, favorable climate, friendliness, rural-urban population centers, and many outstanding features to offer industry. She has established, through Technical Institutes, a program designed to train and equip the labor force, meeting the demands of any level of employment.

The purpose of this catalog is to provide general information on the courses offered by the Wilson County Technical Institute. Any person desiring additional information may obtain it by writing or calling the admission's office.

S. DelMastro
President, Wilson Technical Institute

PURPOSE

The Wilson County Technical Institute, a division of the State's Community College System, believes in the valid philosophy of the Community College System of total education. We are obligated to develop individual talents, regardless of their nature or limitations, to their fullest potential. With the education and realistic work experiences gained in school, the individual will be better equipped to assume his chosen roles in our industrial society. As a result of his training, the individual will help relieve the urgent demand for skilled technicians in our present society.

More specifically, our objectives can be stated as follows:

1. To provide expanded educational opportunities for thousands of young people and adults who would not otherwise continue their education.

2. To provide relatively inexpensive, nearby educational opportunities for high school graduates, school drop-outs, and adults.

3. To provide technical programs, preparing students for jobs of this level in industry, agriculture, business and service occupations.

4. To provide vocational programs of less than technician level, preparing students for jobs requiring different levels of ability and skill.

5. To provide programs of vocational education for employed adults who need training or re-training, or who can otherwise profit from the program.

6. To provide short courses that will meet the general adult and community service needs of the people of the community.

Since all of these objectives cannot be obtained by the same methods, various programs are presented to the prospective student in order for him to select a program, which is consistent with his interests and individual aptitudes.

AREAS OF STUDY

TECHNICAL DIVISION

The curriculum within the Technical Division is designed to meet the prevalent demand for skilled technical workers. Entrance requirements into this division are higher because of the more technical and comprehensive program; therefore, students entering this Technical Division are required to meet educational and aptitude standards appropriate to the field selected.

Six quarters are the minimum required to complete training in the technical field of study. The duration of this training period allows the student to gain a firm foundation in both theory and experience necessary to perform as a competent technician. Applicants interested in technical training should refer to the section of this catalog pertaining to admission requirements to the Technical Division.

TRADE DIVISION

The Trade Division of the Wilson County Technical Institute emphasizes the training of manipulative and mental skills related to specific trade areas. Students are under close supervision developing those skills acceptable to industrial organizations.

EXTENSION

Under this program of the Wilson County Technical Institute, opportunities are available to those men and women who, though, employed, desire to upgrade and update their present occupational level. As a result of their efforts, individuals may have the opportunitity for job advancement, personal satisfaction of self-improvement, or the earning of a high school certificate through the Institute's Learning Laborartoy.

Special classes, both at the Institute and in surrounding towns, enable adults to meet their educational needs and the development of their cultural, intellectual, and social potential.

These classes are held both day and night to accommodate interested adults.

UPGRADING CLASSES

To be eligible for admission to an upgrading class, a person must be employed in the occupational or related area for which training is given.

Upgrading classes are offered in several areas of work depending on the demand from interested applicants. Some of the areas of work in which upgrading is offered are: Distribution and Marketing, Supervisory Training, Agricultural Business, Industrial Training, Fire Service, Law Enforcement, and other areas as requested.

For additional information and an application blank, contact the Wilson County Technical Institute.

GENERAL ADULT EDUCATION

Special classes for adults are held during the evening which allows for social and cultural enrichment, personal satisfaction, and general educational advancement.

LAW ENFORCEMENT

The Wilson County Technical Institute, in cooperation with the Wilson City Police Department and the Coastal Plains Law Enforcement Association, sponsors police training for law enforcement officers of Eastern North Carolina.

A four week course is held once a year for rookie police training. In addition, a course in the use of the Breathalyzer is offered whenever it is needed.

FIRE SERVICE TRAINING PROGRAM

A series of fire service courses are conducted for both volunteer and paid firemen to assist them in maintaining a high level of proficiency in fire fightng technque. These courses are held in various communities throughout Eastern North Carolina.

In addition, two three-day fire schools are held yearly at the Institute and at the Wilson Fire Training Grounds. These schools provide actual fire training for beginning firemen and an advanced program for veteran firemen.

These courses are sponsored by the Wilson County Technical Institute, the Wilson City Fire Department, and the Eastern Carolina Firemen's Association.

SUPPLEMENT

The contact hours shown in the catalog are minimal. It is a policy of this institution to permit students to enroll in additional subjects and laboratory work beyond those shown in the catalog.

When in any quarter the total weekly contact hours listed are fewer than twenty-five hours in a technical curriculum and fewer than thirty hours in a vocational trade curriculum, a student may enroll on request for additional instructional hours deemed by the institution to be consistent with the program and appropriate to the student to make up twenty-five hours per week in a technical curriculum or sufficient hours of attendance to make up thirty hours per week in a vocational trade curriculum.

DEGREES — DIPLOMAS — CERTIFICATES AND AWARDS

Upon successful completion of the prescribed courses of study, the Wilson County Technical Institute will award the following: Associate in Applied Science Degree for approved two year tech nologies; Diploma for one and two year trade courses; and Certificates for single courses of instruction.

DEGREES

The Associate in Applied Science Degree will be issued to those students completing and fulfilling the requirements of the prescribed program. AAS Degrees may be earned in the folowing areas: Electronics, Mechanical Manufacturing, Drafting and Design, Air Conditioning and Refrigeration, Agricultural Equipment Accounting and Executive Secretary. Police Science, Transportation Maintenance, Business Administration.

DIPLOMAS

Diplomas are issued to those students who successfully complete the prescribed programs in Technology or Trade Divisions.

CERTIFICATES

Certificates are issued to those students completing courses of study of less than one year.

AWARDS

Each year at commencement, the President's Award is given to the student having the highest numerical average in each curriculum. The award is given to recognize scholarship and to encourage excellence in all fields.

The Pilot Club of Wilson each year awards a $25 Savings Bond to the most improved student in the Technician Program.

ADMISSIONS PROCEDURE

Students desiring admission to the Wilson County Technical Institute should obtain an application blank from the Institute's office, preferably in person. Students may enroll anytime during the months preceding the official enrollment date.

a) Completed application returned to Registrar.

b) A transcript of all high school and college credits must be filed with the Registrar.

c) Scores on all pre-entrance tests.

d) A personal interview with school officials.

Specific requirements for certain programs are listed under the division section of this catalog.

REGISTRATION

Two days preceding each school year are devoted to registration and orientation. New students should report to the school office during these two days for final registration and scheduling.

ADVANCE STANDING

Completed work done at another Technical Institute, Educational Center, or College, is acceptable and credit, if applicable, is allowed by the Wilson County Technical Institute. Students wishing to be admitted with advance standing should first make application as a regular student and submit transcipt of work to be approved by the Director of Technical and Vocational Division or by the President of the Wilson County Technical Institute.

EXPENSES OF DAY SCHOOL

The total fees of a student will vary as to the cost of books and supplies. Fees are payable upon registration; however, in hardship cases, fees for a quarter may be divided into three monthly installments. The expense of housing is not included since this service is not supplied by the Institute. The Institute will assist the student in securing housing facilities.

FEES: TECHNICAL AND VOCATIONAL

Full time (13 hours or more)	$32.00 per quarter
Student Activity Fee	
Part time (less than 13 hours)	$ 2.50 per credit hour
Textbooks and supplies $50 - $100 per year	(approximately)

FEES: HEAVY EQIUPMENT OPERATOR (3 MONTHS)

Tuition	$ 75.00
Protective clothing	20.03
Accident Insurance	2.50
Textbooks	4.00
	$101.53 Total

6 months program $75.00 additional tuition

FEES: EVENING CLASSES

Varies with the cost of books and supplies

INSURANCE

Each student is required to have accident insurance; either a personal policy or participation through the School's group policy. This insurance is offered to each student at a low yearly rate and provides adequate protection to and from school and while in school. In addition or in lieu of the above accident policy, the Institute makes available a hospital accident insurance policy at a low premium.

OUT OF STATE STUDENTS' CHARGES

Any student whose legal residence is outside of North Carolina, or, in the case of students who are boarding or living with relatives in the community, whose parents or guardians live outside the State, will pay tuition fees two and one-half times the in-State rate, except where Federal or State law prohibits.

REFUND POLICY FOR CURRICULUM STUDENTS

Tuition refund for students shall not be made unless the student is, in the judgment of the institution, compelled to withdraw for unavoidable reasons. In such cases, two-thirds (⅔) of the student's tuition may be refunded if the student withdraws within ten (10) calendar days after the first day of classes as published in the school calendar. Tution refunds will not be considered after that time. Tution refunds will not be considered for tuition of five dollars ($5.00) or less, except if a course or curriculum fails to materialize, all the students' tuitions shall be refunded.

GRADING SYSTEM

Grades will be issued to students at the end of each quarter. Prior to this, students who are deficient in subjects will be notified of this at mid-quarter. The student will be graded on the requirements of technical skills, promptness, ability to work under direction, interest in the work, initiative, and knowledge of related technical information.

Students enrolled in the regular technology and trade programs will be graded by the following letter grade system:

A	93 - 100	Excellent
B	86 - 92	Above Average
C	78 - 85	Average
D	70 - 77	Passing
F	Below 70	Unsatisfactory
I	Incomplete	
WP	Withdrawal Passing	
WF	Withdrawal Failing	

Incomplete: Assigned when the student is unable to complete his work or take the final examination because of illness or other reasons over which the student has no control. The grade is given with the approval of the instructor and the Director of the Technical and Vocational Division. An "incomplete" must be removed within a reasonable period of time, otherwise the grade becomes an automatic "F".

GRADES AND SCHOLARSHIP STANDARDS

Wilson County Technical Institute operates on a numerical grade system based on 100 points as maximum. A grade of 70 or above is required to receive credit for satisfactory completion of a course. A student with a final grade in the range of 65 to 69 on any course may continue in his Technology, contingent upon approval of instructor in whose course the grade was made, but cannot receive graduation credit until the deficiency is removed and a grade of 70 or above is attained. A student whose grade for a required course is below 65 will not be permitted to enroll in any course for which this is a prerequisite.

A student is eligible for graduation when he has fulfilled the following requirements:

1. Satisfactorily complete all the requirements of the curriculum in which he is specializing.

2. He has paid all fees and fines owed the Institute.

PRESIDENT'S LIST

The Wilson County Technical Institute encourages scholarship in all programs. In order to honor those students who achieve this standard of excellency, a quarterly list is published in recognition of students not making any grade lower than "B" on any course. Students who qualify for the President's List with all "A's" will be cited for distinctions, those who qualify with nothing less than a grade of "B" will be cited with merit.

ACADEMIC DEFICIENCY

Any student whose over-all subject average for any given quarter's work falls below 70 or who fails in excess of two subjects will be placed on the "Academic Deficiency" list. If the subsequent quarter's work should fail to meet this minimum standard (70 average), the student may be requested to withdraw from school, drop certain courses, and/or take remedial work.

SCHEDULE CHANGES

Changes of schedule after enrollment has been completed shall be made only with the permission of the Director of the Technical and Vocational Division within a five day period of time after classes have started. Extenuating circumstances can be considered after this period of time by the Director of the Technical and Vocational Division.

Class drop outs after this period of time, will be shown on the student's permanent record with a WP or WF to indicate progress at the time the class was dropped.

WITHDRAWALS AND RE-ENTRANCE

Any student who desires to withdraw from the Institute during the quarter should consult the Director of Student Personnel and then apply at the Office of the President in writing for a leave of absence or honorable dismissal. This will protect the student's scholastic record, his right to re-enroll, and the right to transfer to another Institute. No student will be given an honorable dismissal without first consulting the Director of Student Personnel and accounting for all school property charged to him. The importance of keeping the office informed of his actions cannot be overemphasized for an up-to-date record is very important.

STUDENT CONDUCT

Students of the Wilson County Technical Institute are considered mature individuals. Their conduct, which reflects the dignity and integrity of the individual and the Institute, is expected to be dignified and honorable at all times. The responsibility for being ladies and gentlemen rests on the shoulders of each student. Violations of school regulations will be handled by the Director of Student Personnel; and if it is necessary to go beyond this point, the

President of the School will be consulted. In some cases this may result in dismissal from school.

"A Student Handbook" which is a list of rules, helpful ideas, and general information, will be distributed to each new student during Orientation, the first week of school.

ATTENDANCE

There is no system of "cuts" at the Wilson County Technical Institute. Failure to attend a class will constitute an unexcused absence unless the absence is caused by personal illness or death in the immediate family. Students absent from class for either of these reasons will produce a written excuse to substantiate the facts of absence. This written excuse will be shown to the instructors of all classes from which the student was absent.

A student must be present during at least 80% of the instructional hours of any course to receive credit for the course.

Instructors are required to report to the Director of Student Personnel the name of any student when such student has missed 15% of the total hours of any course prior to the 10th week of the quarter, or when a student has missed three consecutive class periods.

An appeal for good reason may be made by the student to the Director of Student Personnel.

STUDENT SERVICES AND ACTIVITIES

COUNSELING

Counseling begins with the initial interview before acceptance of a student. The primary purpose of the interview is to ascertain if the student has made a wise decision in his choice of study which closely fits his needs, interest, and abilities.

Opportunities for counseling services are available throughout the student's enrollment at the Institute. In addition, he will be assigned an advisor who teaches in a related area corresponding to the student's interest. The advisor assists in constructing the student's program and other problems in the academic field.

These services, in addition to special testing, are available to the student without charge.

PLACEMENT

Placement services are available to both present and former students of the Institute. There is no charge to the student or employer for this service.

A placement committee assists in maintaining an effective program for contact between students and industrial employment managers. The Institute oversees the program of interview schedules and tries to effect placement that will be satisfactory from both the standpoint of the student and employer. Every effort is made by the Institute to place those students who desire employment.

HOUSING

Although there are no school dormitories, the Institute makes every effort to place students in comfortable surroundings. Local residents who have rooming facilities for rent are registered with the school. Cost of accommodations will vary between $30 and $40 per month. For additional information, contact the Director of Student Personnel.

STUDENT GOVERNMENT

The Student Government Association represents one of the most active organizations at the Institute. Elections are held each Fall with a spirited campaign for the various offices. This organization teaches democratic principles through practice and contributes greatly to the over-all student life within the school.

STUDENT FINANCIAL AID

Loans are available to full-time students in all State programs. Money can be borrowed through the College Foundation for expenses encountered in technical or vocational training. Qualified students may borrow up to $1,000 each year at a low rate of inter-

est. Applications for loans can be obtained after acceptance into a full-time program.

In addition, full-time students may receive small, short-term loans from the school for incidental expenses. Applications and information may be obtained in the Office of Student Personnel.

Scholarship is encouraged through the help of Civic Clubs and Industry. The following scholarships are offered to qualified applicants:

$250, Kiwanis Club: Open to resident of Wilson County only. Any technical curriculum.

$400, Maintenance Council of the North Carolina Motor Carriers Association. Open for students of Transportation Maintenance only. Two scholarships of $200 each.

$250, Tom Bailey Motor Company: Nash and Edgecombe Counties. Open to residents of Nash and Edgecombe Counties only who are enrolled in Transportation Maintenance.

$100, Wilson Sertoma Club: Awarded to first-year Technical Student.

For additional information contact the Office of Student Personnel.

WORK STUDY PROGRAM

The Wilson County Technical Institute through the Technical and Vocational Act of 1963 provides students with part-time jobs at the Institute. Students desiring to participate in this program should complete an application during their acceptance interview.

G. I. BILL

The Wilson County Technical Institute has been approved for training for those students who wish to attend school under the new "Cold War G. I. Bill".

SELECTIVE SERVICE DEFERMENT

Students enrolled at the Wilson County Technical Institute as full-time students or those enrolled in courses with a total value of at least 12 quarter hours may request of his local board a deferment 2-A for the duration of the program in which he is enrolled.

During registration, a student will furnish information to the school and their Selective Service Boards are notified by the school.

LIBRARY

A technical library is available to students, faculty, and the business community. The library is conveniently located at the Institute and is well lighted for reading and studying. It is well heated and air conditioned for its users' comfort. During regular hours, it is staffed by a qualified librarian. It is open Monday through Thursday nights for the use of students, faculty and special Adult Education classes. Although the materials housed in the library

are primarily related to the technologies taught at the Institute, there are varied selections in pure and applied sciences, fine arts, and history, as well as an excellent reference collection. Approximately 6,000 volumes, 80 magazines, and 10 newspapers are available for ready reference. Additional books and materials are added during the year as the need and demand arises.

LABORATORIES AND SHOPS

The machines, apparatus, tools, and other equipment installed in the laboratories and shops, represent the most modern and best available for instructional purposes. Equipment found here at the Institute is comparable to that found in industrial plants today.

BOOKSTORE

The Institute's bookstore is located in the Student Store. Textbooks, slide rules, and other supplies are sold to the student at a minimum cost. Regular bookstore hours are maintained throughout the quarter and are posted on all bulletin boards. Special hours are observed during rush periods at the beginning of each quarter.

ANNUAL

The **Technician,** which is the school yearbook, is published by students of the Wilson County Technical Institute. This publication helps to maintain school spirit and furnished the student with a tangible memory of the past.

STUDENT LOUNGE

The Wilson County Technical Institute operates a refreshment center for the convenience of the students. This facility is equipped with a snack bar and modern vending machines. Students may use this facility for relaxation, social meetings, and study between classes.

NEWSPAPER

"Tech Talk", the student newspaper is published monthly and gives its readers a review of campus activities. All programs are encouraged to contribute resumes of their activities during the publishing period. It circulates among students, faculty, administration and the campus community.

AUTOMOTIVE CLUB

Membership is open to those students in Transportation Maintenance Technology. Interested individuals carry their work outside the classroom in special abilities and ideas.

ALPHA SIGMA EPSILON

The organization invites membership from all fields of technology. Through this organization, students have the opportunities to strengthen their interest through both professional work and social associations.

TECHNICAL DIVISION

(Two-Year Programs)

ADMISSION REQUIREMENTS

Candidates wishing to enroll in the two-year program leading to the Associate in Applied Science Degree or a Diploma in Technology, must meet the following qualifications:

1. Be a high school graduate or the equivalent. Equivalency will be determined by the North Carolina High School Equivalency Test Battery.

2. Must have completed one year of Algebra for Engineering Technologies. Algebra not required for Business Technologies.

3 Must be of at least average intelligence.

4. Demonstrate mechanical aptitude necessary for the program.

5. Submit a complete high school transcript.

6. Possess the minimum physical standards necessary to carry out all requirements of the job for which he is preparing. When there is doubt, a certificate will be required from a reputable physician.

7. Take all admission examinations. Information concerning dates and procedure for taking these tests will be given upon recepit of application or may be obtained from the Institute's Office.

   Although the results of these tests are considered in selecting students, they are used primarily for guidance purposes. Additional tests may be required in special cases; however, the applicant will be notified if these tests are required. Evidence of serious deficiency in certain areas may have a bearing on the acceptance of an applicant.

Note: It is desirable for a prospective technical candidate to have two years of Algebra and one year of Physics.

ACCOUNTING

PURPOSE OF CURRICULUM

Accounting is one of the fastest growing employment fields in America today, and the job outlook for good accountants seems bright for many years to come. These opportunities result from the tremendous business and industrial expansion in all parts of the country. Because of this emphasis, there is a growing need for trained people in the area of accounting to help managers keep track of a firm's operation. The Accounting Curriculum is designed to fill this need by offering students the necessary accounting theories and skills for the entry into the accounting profession.

The specific objectives of the Accounting Curriculum are to develop the following competencies:

1. Understanding of the principles of organization and management in business operations.

2. Understanding of the fundamentals of accounting and analysis of financial statements.

3. Understanding and skill in effective communications for business.

JOB DESCRIPTION

The duties and responsibilities of an accountant vary somewhat in different firms. Some of the things an account might do are: record transactions, render periodic reports, maintain cost records, make special reports, complete tax returns, audit the books, and advise management in areas of financial affairs.

The graduate of the Accounting Curriculum may qualify for various jobs in business and industry leading to any of the following accounting positions: accounting clerk, payroll clerk, accounting machine operator, auditor, and cost accountant. This training plus further experience should prepare them to become office managers, accounting supervisors, and to fill other responsible positions in a business firm.

ACCOUNTING

SUGGESTED CURRICULUM BY QUARTERS

Course		Title	Hours Per Week Class	Lab.	Quarter Hours Credit
FIRST QUARTER					
T-ENG	101	Grammar	3	0	3
T-BUS	102	Typewriting (Or Elective)	3	3	3
T-MAT	110	Business Mathematics	5	0	5
T-BUS	101	Introduction to Business	5	0	5
T-ECO	102	Economics	3	0	3
			18	3	19
SECOND QUARTER					
T-ENG	102	Composition	3	0	3
T-BUS	120	Accounting	5	2	6
T-ECO	104	Economics	3	0	3
T-BUS	115	Business Law	3	0	3
T-BUS	123	Business Finance	3	0	3
			17	2	18
THIRD QUARTER					
T-ENG	103	Report Writing	3	0	3
T-BUS	124	Business Finance	3	0	3
T-BUS	110	Office Machines	2	2	3
T-BUS	121	Accounting	5	2	6
T-BUS	116	Business Law	3	0	3
			16	4	18
FOURTH QUARTER					
T-ENG	204	Oral Communication	3	0	3
T-EDP	104	Introduction to Data Processing Systems	3	2	4
T-BUS	222	Accounting	5	2	6
.....		Elective	6	0	6
			17	4	19
FIFTH QUARTER					
T-ENG	206	Business Communication	3	0	3
.....		Social Science Elective	3	0	3
T-BUS	223	Accounting	5	2	6
T-BUS	225	Cost Accounting	3	2	4
T-BUS	235	Business Management	3	0	3
			17	4	19
SIXTH QUARTER					
.....		Social Science Elective	3	0	3
T-BUS	229	Taxes	3	2	4
T-BUS	269	Auditing	3	2	3
.....		Elective	4	0	4
			13	4	15

Total Quarter Hours in Courses	98
Electives (Min.)	10
Total	108

BUSINESS ADMINISTRATION

PURPOSE OF CURRICULUM

In North Carolina the opportunities in business are increasing. With the increasing population and industrial development in this State, business has become more competitive and automated. Better opportunities in business will be filled by students with specialized education beyond the high school level. The Business Administration Curriculum is designed to prepare the student for employment in one of many occupations common to business. Training is aimed at preparing the student in many phases of administrative work that might be encountered in the average business.

The specific objectives of the Business Administration Curriculum are to develop the following competencies:

1. Understanding of the principles of organization and management in business operations.

2. Understanding our economy through study and analysis of the role of production and marketing.

3. Knowledge in specific elements of accounting, finance, and business law.

4. Understanding and skill in effective communication for business.

5. Knowledge of human relations as they apply to successful business operations in a rapidly expanding economy.

JOB DESCRIPTION

The graduate of the Business Administration Curriculum may enter a variety of career opportunities from beginning sales person or office clerk to manager trainee. The duties and responsibilities of this graduate vary in different firms. These encompassments might include: making up and filing reports, tabulating and posting data in various books, sending out bills, checking calculations, adjusting complaints, operating various office machines, and assisting managers in supervising. Positions are available in businesses such as advertising; banking; credit; finance; retailing; wholesaling; hotel, tourist, and travel industry; insurance; transportation; and communications.

BUSINESS ADMINISTRATION

SUGGESTED CURRICULUM BY QUARTERS

Course		Title	Class Hours Per Week	Lab. Hours Per Week	Credit Quarter Hours
FIRST QUARTER					
T-ENG	101	Grammar	3	0	3
T-BUS	102	Typewriting (or Elective)	2	3	3
T-MAT	110	Business Mathematics	5	0	5
T-BUS	110	Introduction to Business	5	0	5
T-ECO	102	Economics	3	0	3
			18	3	19
SECOND QUARTER					
T-ENG	102	Composition	3	0	3
T-BUS	120	Accounting	5	2	6
T-ECO	104	Economics	3	0	3
T-BUS	115	Business Law	3	0	3
T-BUS	123	Business Finance	3	0	3
			17	2	18
THIRD QUARTER					
T-ENG	103	Report Writing	3	0	3
T-BUS	124	Business Finance	3	0	3
T-BUS	110	Office Machines	2	2	3
T-BUS	121	Accounting	5	2	6
T-BUS	116	Business Law	3	0	3
			16	4	18
FOURTH QUARTER					
T-ENG	204	Oral Communication	3	0	3
T-BUS	232	Sales Development	3	0	3
T-EDP	104	Introduction to Data Processing Systems	3	2	4
T-BUS	239	Marketing	5	0	5
.....	.....	Elective	3	0	3
			17	2	18
FIFTH QUARTER					
T-ENG	206	Business Communication	3	0	3
.....	.....	Social Science Elective	3	0	3
T-BUS	243	Advertising	3	2	4
T-BUS	235	Business Management	3	0	3
.....	.....	Elective	3	0	3
			15	2	16
SIXTH QUARTER					
.....	.....	Social Science Elective	3	0	3
T-BUS	229	Taxes	3	2	4
T-BUS	272	Principles of Supervision	3	0	3
T-BUS	271	Office Management	0	0	3
.....	.....	Elective	6	0	6
			18	2	19

Total Quarter Hours in Courses	96
Electives (Min.)	12
Total	108

EXECUTIVE SECRETARY

PURPOSE OF CURRICULUM

The demand for better qualified secretaries in our ever-expanding business world is becoming more acute. The purpose of this curriculum is to outline a training program that will provide training in the accepted procedures required by the business world and to enable persons to become proficient soon after accepting employment in the business office.

The Executive Secretary Curriculum is designed to offer the students the necessary secretarial skills in typing, dictation, transcription, and terminology for employment in the business world. The special training in secretarial subjects is supplemented by related courses in mathematics, accounting, business law, and personality development.

JOB DESCRIPTION

The graduate of the Executive Secretary Curriculum should have a knowledge of business terminology, skill in dictation and accurate transcription of business letters and reports. The graduate may be employed as a stenographer or a secretary. Stenographers are primarily responsible for taking dictation and transcribing letters, memoranda, or reports. The secretary, in addition to taking dictation and transcribing, is given more responsibility in connection with meeting office callers, screening telephone calls, and being an assistant to an executive. She may enter a secretarial position in a variety of offices in businesses such as insurance companies, banks, marketing institutions, and financial firms.

EXECUTIVE SECRETARY

SUGGESTED CURRICULUM BY QUARTERS

Course Title			Class Hours Per Week	Lab.	Credit Quarter Hours
FIRST QUARTER					
T-ENG	101	Grammar	3	0	3
T-BUS	102	Typewriting (Or Elective)	2	3	3
T-MAT	110	Business Mathematics	5	0	5
T-BUS	101	Introduction to Business	5	0	5
T-BUS	106	Shorthand (Or Elective)	3	2	4
			18	5	20
SECOND QUARTER					
T-ENG	102	Composition	3	0	3
T-BUS	103	Typewriting (Or Elective)	2	3	3
T-BUS	107	Shorthand	3	2	4
T-BUS	120	Accounting	5	2	6
T-BUS	115	Business Law	3	0	3
			16	7	19
THIRD QUARTER					
T-ENG	103	Report Writing	3	3	3
T-BUS	104	Typewriting	2	3	3
T-BUS	108	Shorthand	3	2	4
T-BUS	110	Office Machines	2	2	3
T-BUS	112	Filing	3	0	3
			13	7	16
FOURTH QUARTER					
T-ENG	204	Oral Communication	3	0	3
T-BUS	206E	Dictation and Transcription (Executive)	3	2	4
T-BUS	205	Advanced Typewriting	2	3	3
T-BUS	211	Office Machines	2	2	3
T-EDP	104	Introduction to Data Processing Systems	3	2	4
			13	9	17
FIFTH QUARTER					
T-ENG	206	Business Communication	3	0	3
T-BUS	207E	Dictation and Transcription (Executive)	3	2	4
T-BUS	214	Secretarial Procedures	3	2	4
.....	.....	Social Science Elective	3	0	3
.....	.....	Elective	6	0	6
			18	4	20
SIXTH QUARTER					
.....	.....	Social Science Elective	3	0	3
T-BUS	208E	Dictation and Transcription (Executive)	3	2	4
T-BUS	271	Office Management	3	0	3
.....	.....	Elective	6	0	6
			15	2	16
		Total Quarter Hours in Courses			96
		Electives (Min.)			12
					108

TRAFFIC AND TRANSPORTATION

PURPOSE OF CURRICULUM

North Carolina, in its tremendous industrial growth, has a need for more highly trained and skilled personnel in the traffic and transportation industry. The purpose of this curriculum is to provide training in new techniques, and an understanding of the latest State and Federal regulations applicable to traffic and transportation, which should enable the student to accept employment in a higher-level job in the industry.

The specific objectives of the Traffic and Transportation Curriculum are to develop the following competencies:

1. Understanding of the principles of organization and management in business operations and the traffic and transportation industry.

2. Understanding and skill in effective communication for business.

3. Understanding of the Interstate Commerce Act and related acts as they apply to traffic and transportation.

4. Understanding the role traffic and transportation plays in the expanding business economy.

JOB DESCRIPTION

The graduate of this curriculum may seek career opportunities in the traffic and transportation industry as traffic representative, claims representative, dispatcher, rate analyst, and operational supervisor. A traffic representative is responsible for calling on the shipping public and selling the services of his respective company for their use. A claims representative renders and investigates claims for losses, shortages, damages, or overcharges on shipments of merchandise and adjusts claims. The dispatcher is responsible for dispatching men or equipment to prevent or rectify disruptions in service in all departments of a transportation system. The rate specialist determines rates, routes, and classifications applicable to merchandise or material shipped or received by common carrier. The responsibilities of the operational supervisor include the supervision of those activities that will assure the smooth and constant flow of the traffic through the terminal area. This training, with additional experience, should qualify the student for positions as claims manager, operational manager, and managers of transportation terminals.

TRAFFIC AND TRANSPORTATION

SUGGESTED CURRICULUM BY QUARTERS

Course		Title	Hours Per Week Class	Lab.	Quarter Hours Credit
FIRST QUARTER					
T-ENG	101	Grammar	3	0	3
T-BUS	102	Typewriting (or Elective)	2	3	3
T-MAT	110	Business Mathematics	5	0	5
T-BUS	101	Introduction to Business	5	0	5
T-ECO	102	Economics	3	0	3
			18	3	19
SECOND QUARTER					
T-ENG	102	Composition	3	0	3
T-BUS	120	Accounting	5	2	6
T-ECO	104	Economics	3	0	3
T-BUS	115	Business Law	3	0	3
T-BUS	178	Traffic and Transportation	3	0	3
			17	2	18
THIRD QUARTER					
T-ENG	103	Report Writing	3	0	3
T-BUS	121	Accounting	5	2	6
T-BUS	116	Business Law	3	0	3
T-BUS	179	Traffic and Transportation	3	0	3
T-ECO	106	Economics of Transportation	3	0	3
			17	2	18
FOURTH QUARTER					
T-ENG	204	Oral Communication	3	0	3
T-BUS	280	Traffic and Transportation	3	0	3
T-BUS	290	Motor Carrier	3	0	3
T-BUS	285	ICC Law	3	0	3
T-BUS	232	Sales Development	3	0	3
.....		Elective	3	0	3
			18	0	18
FIFTH QUARTER					
T-ENG	206	Business Communication	3	0	3
.....		Social Science Elective	3	0	3
T-BUS	281	Traffic and Transportation	3	0	3
T-BUS	286	ICC Law	3	0	3
T-BUS	291	Motor Carrier	3	0	3
.....		Elective	3	0	3
			18	0	18
SIXTH QUARTER					
.....		Social Science Elective	3	0	3
T-BUS	295	Traffic Claims	3	0	3
T-BUS	299	Traffic Management	3	0	3
T-BUS	287	ICC Law	3	0	3
.....		Elective	5	0	5
			17	0	17
		Total Quarter Hours in Courses			97
		Electives (Min.)			11
		Total			108

POLICE SCIENCE

Purpose of Curriculm

Law enforcement techniques have evolved from rather simple jobs, requiring simple qualifications, to more complex activities requiring a large capacity for highly specialized knowledge.

Traditional policies and entrance requirements, coupled with education and training standards have led to a shortage of trained law enforcement technicians and administrators.

Today, as police agencies move toward a professional status, educational institutions are becoming the training centers for tomorrow's policemen. The North Carolina Department of Community Colleges' Law Enforcement Training program is dedicated to the purpose of developing proficiency in leadership in these people. Its development is based on present and future educational and training needs rather than those of the past.

The program is designed to provide occupational training for the individual who has a definite interest in and adaptability to a law enforcement career. It offers practical, technical and general instruction to meet the requirements of various law enforcement agencies and provide the student with the skills, knowledges, and attitudes necessary for employment at the operational level and development for management roles.

There is an increasing demand for properly trained law enforcement officers in industry, municipal, county, state and federal agencies; and there is every reason to believe that the highly trained law enforcement officer will find challenging opportunities with public and private law enforcement services.

Job Description

Law enforcement is that important division of government which is assigned the power and responsibility to maintain order and enforce law. Its basic functions may be classified as prevention of crime, suppression of criminal activity, apprehension of offenders, preservation of the peace, regulation of noncriminal conduct, and the protection of life and property.

To the original and primary police functions of preserving the peace and maintaining law and order, the ever widening scope of government activity has added a host of other duties to the various law enforcement agencies, ranging from the regulation of traffic and the suppression of vice to the enforcement of minor laws and ordinances that regulate the minutiae of business and private life in a modern society.

POLICE SCIENCE

SUGGESTED CURRICULM BY QUARTERS

COURE TITLE	Hours Per Week Class	Lab	Quarter Hours Credit
FIRST QUARTER			
T-ENG 101 Grammar	3	0	3
T-MAT 101 Technical Math	5	0	5
T-PSC 101 Introduction to Law Enforcement	5	0	5
T-PSY 102 General Psychology	5	0	5
	18	0	18
SECOND QUARTER			
T-ENG 102 Composition	3	0	3
T-SOC 102 Principles of Sociology	5	0	5
T-POL 102 Government—National	5	0	5
T-PSC 220 Police Organization & Administration I	5	0	5
	18	0	18
THIRD QUARTER			
T-ENG 103 Report Writing	3	0	3
T-POL 103 Government—State and Local	5	0	5
T-PSC 110 Police Role in Crime & Delinquency	5	0	5
Elective	5	0	5
	18	0	18
FOURTH QUARTER			
TT-ENG 204 Oral Communications	3	0	3
T-PSC 201 Traffic Planning and Management	4	2	5
T-CHM 101 Chemistry	4	2	5
T-PSC 115 Criminal Law	5	0	5
	16	4	18
FIFTH QUARTER			
T-PSC 205 Criminal Evidence	5	0	5
T-PSC 210 Criminal Investigation	5	0	5
Elective	5	0	5
Elective	3	0	3
	18	0	18
SIXTH QUARTER			
T-PSC 211 Introduction to Criminalistics	4	3	5
T-PSC 225 Criminal Procedure	5	0	5
T-PSY 103 Adolescent Psychology	5	0	5
Elective	3	0	3
	17	3	18
Total Quarter Hours in Courses			92
Electives (Min.)			16
Total			108

AGRICULTURAL EQUIPMENT TECHNOLOGY

Manufacturing, distributing, selling, servicing, and repairing agricultural equipment offer challenging opportunities in today's mechanized agriculture.

General adoption and widespread use of modern machinery has created numerous employment opportunities in production, manufacturing, sales, service, finance, distribution, installation, and maintenance of agricultural equipment.

Purpose of Curriculum

The curriculum in Agricultural Equipment Technology is designed to help students acquire knowledge, understanding and abilities needed in the agricultural equipment field. Related subjects are included to give the student a broad practical educational base.

The Agricultural Equipment Technology curriculum shall develop:

1. Ability to select, demonstrate, install, and maintain agricultural equipment;

2. Initiative, judgment, and dependability;

3. Understanding and ability to utilize technical bulletins and manuals relative to the agricultural industry;

4. Ability to communicate effectively and to deal with individual human behavior problems peculiar to the agricultural equipment industry;

5. Understanding of the principles of general business organization, management and procedures relating to the agricultural equipment industry and selected areas of agricultural economics applicable to the industry; and

6. Ability to utilize the knowledge and skills required in solving problems of the agricultural equipment industry.

AGRICULTURAL EQUIPMENT

SUGGESTED CURRICULUM BY QUARTERS

Course		Title	Hours Per Week Class	Lab.	Quarter Hours Credit
FIRST QUARTER					
T-ENG	101	Grammar	3	0	3
T-MAT	101	Technical Mathematics	5	0	5
T-DFT	101	Technical Drafting	0	6	2
T-PHY	101	Physics: Properties of Matter	3	2	4
T-AGR	111	Tractor Engines I	4	2	5
			15	10	19
SECOND QUARTER					
T-ENG	102	Composition	3	0	3
T-DFT	102	Technical Drafting	0	6	2
T-PHY	102	Physics: Work, Energy, Power	3	2	4
T-AGR	112	Tractor Engines II	4	2	5
T-AGR	115	Tractor Hydraulic Systems	3	2	4
			13	12	18
THIRD QUARTER					
T-ENG	103	Report Writing	3	0	3
T-PHY	103	Physics: Electricity	3	2	4
T-AGR	113	Tractor Engines III	4	2	5
T-AGR	116	Applied Hydraulics	1	2	2
T-AGR	119	Techniques of Welding	1	2	2
T-AGR	214	Farm Machinery I	2	4	4
			14	12	20
FOURTH QUARTER					
T-ENG	204	Oral Communication	3	0	3
T-AGR	215	Farm Machinery II	2	4	4
T-AGR	211	Agricultural Diesels I	4	2	5
T-AGR	210	Tractor Systems	2	4	4
T-BUS	232	Sales Development	3	0	3
			14	10	19
FIFTH QUARTER					
T-AGR	186	Soils and Irrigation	3	2	4
T-AGR	212	Agricultural Diesels II	2	4	4
T-BUS	235	Business Management	3	0	3
.....		Social Science Elective	3	0	3
.....		Elective	0	0	3
			11	6	17
SIXTH QUARTER					
T-AGR	220	Parts and Service Management	3	2	4
T-AGR	216	Crop Processing and Handling Equipment	3	2	4
.....		Social Science Elective	3	0	3
.....		Elective	0	0	4
			9	4	15

Local institutions may add work experience to this curriculum.

Total Hours in Courses	101
Electives	7
Total	108

AIR CONDITIONING AND REFRIGERATION

Purpose of Curriculum

In recent years the use of air-conditioning and refrigeration equipment has increased tremendously. Practically all new building construction for business and commercial use have "year-round" air-conditioning systems. Many homes now have air-conditioning and the trend is toward greater use of "year-round" systems for cooling and heating. Transportation systems and food industries are requiring greater use of refrigeration systems for transit, storage and display of products. With this great upswing in the use of air-conditioning and refrigeration equipment, a greater demand is made on trained personnel to plan and supervise installations and to supervise the operation and maintenance of this equipment.

The curriculum is designed to prepare the student to assist in planning, installing, operating and maintaining air-conditioning equipment. The required technical information is presented and related skills are developed which will enable the graduate to function efficiently when working with engineers, systems designers, skilled craftsmen, salesmen, and others in the field. Considerable emphasis is placed on self-development in an effort to encourage the graduate to continue to study and grow as the industry advances.

Job Description

The air-conditioning and refrigeration technician may be employed in areas of sales, installation, maintenance, production drafting, systems design, or as a research engineering assistant. He is involved with equipment for regulating temperature and humidity. He works with control systems, ducts and piping for distribution of air, water, steam, and refrigerants. His duties may be concerned with any or all of these systems and components.

AIR CONDITIONING AND REFRIGERATION

SUGGESTED CURRICULUM BY QUARTERS

Course Title			Hours Per Week Class	Lab.	Quarter Hours Credit
FIRST QUARTER					
T-ENG	101	Grammar	3	0	3
T-MAT	101	Technical Mathematics	5	0	5
T-PHY	101	Physics: Properties of Matter	3	2	4
T-DFT	101	Technical Drafting	0	6	2
T-AHR	101	Fundamentals of Refrigeration I	4	3	5
			15	11	19
SECOND QUARTER					
T-ENG	102	Composition	3	0	3
T-MAT	102	Technical Mathematics	5	0	5
T-PHY	102	Physics: Work, Energy, Power	3	2	4
T-DFT	102	Technical Drafting	0	6	2
T-AHR	102	Fundamentals of Refrigeration II	3	6	5
			14	14	19
THIRD QUARTER					
T-ENG	103	Report Writing	3	0	3
T-MAT	103	Technical Mathematics	5	0	5
T-PHY	103	Physics: Electricity	3	2	4
T-AHR	103	Commercial Refrigeration Systems Designs	3	6	5
			14	8	17
FOURTH QUARTER					
T-ENG	204	Oral Communication	3	0	3
T-DFT	204	Descriptive Geometry	2	4	4
T-PHY	231	Fluid Mechanics	3	0	3
T-AHR	201	Heating Principles	3	4	5
T-AHR	216	Circuits & Controls I	3	3	4
			14	11	19
FIFTH QUARTER					
		Social Science Elective	3	0	3
T-AHR	203	Air Conditioning Principles	5	6	7
T-DFT	226	Air Conditioning Systems Drawing	0	6	2
		Elective			4
			8	12	16
SIXTH QUARTER					
		Social Science Elective	3	0	3
T-AHR	209	Air Conditioning Systems Design	5	6	7
T-AHR	227	Estimating & Contracts	3	6	5
		Elective			4
			11	12	18

Total Quarter Hours in Courses	101
Electives (Min.)	7
Total	108

DRAFTING & DESIGN - MECHANICAL

Purpose of Curriculum

This curriculum guide was prepared for the purpose of outlining a training program for students of mechanical drafting and design technology. There are certain identifiable duties which are common to all technicians of this general classification and which compromise the basic areas of technical knowledge they need. This curriculum has been designed for training persons in the accepted performance of these basic duties that will be assigned, and to enable the individual student to become proficient in a short time after he becomes employed in the industry.

Courses in general education have been included to give a student the assurance and understanding that comes with education upon a broad base. The technician associates with many levels of thought and expression—administrative personnel, scientists, engineers, skilled workmen—and must be able to communicate effectively with all levels, such as mathematics, physics, and mechanics have been included in order to provide the student a better academic base for his training. Emphasis is placed upon ability to think and plan, as well as drafting procedures and techniques.

Job Description

Mechanical drafting and design technicians are concerned with the preparation of drawings for design proposals, for experimental models and items for production use.

These technicians perform many aspects of drafting in a specialized field, such as the developing of the drawing of a section, sub-assembly or major component. Investigating design factors and availability of material and equipment, production methods and facilities are frequent assignments. They assist in the design of units and controls from specifications by utilizing drawings of existing units and reports on functional performance. They may draw components in individual fields based on engineers' original design concepts or specific ideas. ..Also, they may be assigned as coordinators for the execution of related work of other design, production, tooling, material and planning groups. Technicians with experience in this classification may often supervise the preparation of working drawings.

Those technicians are employed in many types of manufacturing, fabrication, research development and service industries. Substantial numbers also are employed in communications, transportation, public utilities, consulting engineering firms, and federal, state, and local governments.

DRAFTING & DESIGN - MECHANICAL
SUGGESTED CURRICULUM BY QUARTERS

Course		Title	Hours Per Week Class	Lab.	Quarter Hours Credit
FIRST QUARTER					
T-ENG	101	Grammar	3	0	3
T-MAT	101	Technical Mathematics	5	0	5
T-PHY	101	Physics: Properties of Matter	3	2	4
T-DFT	101	Technical Drafting	0	6	2
T-MEC	101	Machine Processes	0	6	2
			11	14	16
SECOND QUARTER					
T-ENG	102	Composition	3	0	3
T-MAT	102	Technical Mathematics	5	0	5
T-PHY	102	Physics: Work, Energy, Power	3	2	4
T-DFT	102	Technical Drafting	0	6	2
T-MEC	102	Machine Processes	0	6	2
			11	14	16
THIRD QUARTER					
T-ENG	103	Report Writing	3	0	3
T-MAT	103	Technical Mathematics	5	0	5
T-PHY	103	Physics: Electricity	3	2	4
T-PHY	106	Applied Mechanics	5	0	5
T-DFT	103	Technical Drafting	0	6	2
			16	8	19
FOURTH QUARTER					
T-ENG	204	Oral Communication	3	0	3
T-DFT	201	Technical Drafting	2	6	4
T-DFT	204	Descriptive Geometry	2	4	4
T-MEC	205	Strentgth of Materials	3	2	4
T-MEC	210	Physical Metallurgy	3	3	4
			13	15	19
FIFTH QUARTER					
		Social Science Elective	3	0	3
T-DFT	205	Design Drafting I	2	6	4
T-DFT	211	Mechanisms	3	2	4
T-MEC	211	Physical Metallurgy	3	3	4
		Elective			4
			11	11	19
SIXTH QUARTER					
		Social Science Elective	3	0	3
T-DFT	206	Design Drafting II	2	6	4
T-MEC	235	Hydraulics & Pneumatics	3	3	4
		Elective			4
		Elective			4
			8	9	19
		Total Quarter Hours in Courses			96
		Minimum Electives			12
		Total			108
		Electives (Min.)			12
					108

ELECTRONICS

Purpose of Curriculum

The field of electronics has developed at a rapid pace since the turn of the century. For many years the major concern of electronics was in the area of communications. Developments during World War II and in the period since have revolutionized production techniques. New industries have been established to supplement the need and demand for electronics equipment.

Many opportunities exist for men and women with a technical education in electronics. This curriculum provides a basic background in electronic related theory with practical applications of electronics for business and industry. Courses are designed to develop competent electronics technicians who may take their place as an assistant to an engineer, or as a liaison between the engineer and the skilled craftsman.

Job Description

The electronics technician may start in one or more of the following areas: research, design, development, maintenance or sales. He may be an assistant to an engineer, an engineering aide, laboratory technician, supervisor or equipment specialist. His training is similar to that of an engineer, but in less depth and more practical in application. He can function as a liaison between an engineer and the skilled craftsman.

ELECTRONICS

SUGGESTED CURRICULUM BY QUARTERS

Course Title			Hours Per Week Class	Lab.	Quarter Hours Credit
FIRST QUARTER					
T-ENG	101	Grammar	3	0	3
T-MAT	101	Technical Mathematics	5	0	5
T-PHY	101	Physics: Properties of Matter	3	2	4
T-DFT	101	Technical Drafting	0	6	2
T-ELC	101	Fundamentals of Electricity	4	4 or 6	6
			15	12 or 14	20
SECOND QUARTER					
T-ENG	102	Composition	3	0	3
T-MAT	102	Technical Mathematics	5	0	5
T-PHY	102	Physics: Work, Energy, Power	3	2	4
T-DFT	102	Technical Drafting	0	6	2
T-ELC	102	Fundamentals of Electricity	4	4 or 6	6
			15	12 or 14	20
THIRD QUARTER					
T-ENG	103	Report Writing	3	0	3
T-MAT	103	Technical Mathematics	5	0	5
T-ELN	101	Electronic Instruments and Measurements	1	4 or 6	3
T-ELN	105	Control Devices	5	4 or 6	7
			14	8 or 12	18
FOURTH QUARTER					
T-ENG	204	Oral Communication	3	0	3
T-MAT	201	Technical Mathematics	5	0	5
T-MAT	201	Physics: Light and Sound	3	2	4
T-ELN	205	Applications of Vacuum Tubes and Transistors	5	5 or 6	7
			16	6 or 8	19
FIFTH QUARTER					
.....		Social Science Elective	3	0	3
T-ELN	210	Semiconductor Circuit Analysis	5	2 or 3	6
T-ELN	214	Wave Shaping and Pulse Circuits	2	2 or 3	3
.....		Elective			3
			10	4 or 6	15
SIXTH QUARTER					
.....		Social Science Elective	3	0	3
T-ELN	215	Wave Shaping and Pulse Circuits	2	2 or 3	3
T-ELN	220	Electronic Systems	5	4 or 6	7
.....		Elective			3
			10	6 or 9	16

Total Quarter Hours in Courses	102
Electives (Min.)	6
Total	108

MECHANICAL

MANUFACTURING

Purpose of Curriculum

A primary objective of this program is the training of personnel to assist the engineer or small industry in planning, tooling, operating, servicing, and supervising manufacturing operations. Practically every branch of manufacturing and much research and design make use of the mechanical principles presented in this curriculum. With the increasing importance of automated production, quality control, and production scheduling techniques, the position of the technician in this field has become of primary importance. This curriculum provides basic background of mechanical and related theory with specific skills in the use of manufacturing and testing equipment. The students are given experience in operating and servicing machines accompanied by general education and management courses.

Job Description

A graduate of this program may qualify for an entry position in one of several manufacturing functions. Methods analysis, production scheduling, quality control, materials testing, plant layout, time study, machine tooling, maintenance, equipment and instrument work are typical of situations where the graduate may be able to function with a minimum of on-the-job training.

MECHANICAL

MANUFACTURING

SUGGESTED CURRICULUM BY QUARTERS

Course		Title	Hours Per Week Class	Lab.	Quarter Hours Credit
FIRST QUARTER					
T-ENG	101	Grammar	3	0	3
T-MAT	101	Technical Mathematics	5	0	5
T-PHY	101	Physics: Properties of Matter	3	2	4
T-DFT	101	Technical Drafting	0	6	2
T-MEC	101	Machine Processes	0	6	2
			11	14	16
SECOND QUARTER					
T-ENG	102	Composition	3	0	3
T-MAT	102	Technical Mathematics	5	0	5
T-PHY	102	Physics: Work, Energy, Power	3	2	4
T-DFT	102	Technical Drafting	0	6	2
T-MEC	102	Machine Processes	0	6	2
			11	14	16
THIRD QUARTER					
T-ENG	103	Report Writing	3	0	3
T-MAT	103	Technical Mathematics	5	0	5
T-PHY	103	Physics: Electricity	3	2	4
T-PHY	106	Applied Mechanics	5	0	5
T-MEC	103	Machine Processes	0	6	2
			16	8	19
FOURTH QUARTER					
T-ENG	204	Oral Communication	3	0	3
T-MEC	205	Strength of Materials	3	2	4
T-MEC	210	Physical Metallurgy	3	3	4
T-MEC	213	Production Planning	3	3	4
T-MEC	201	Machine Processes	2	6	4
			14	14	19
FIFTH QUARTER					
		Social Science Elective	3	0	3
T-MEC	211	Physical Metallurgy	3	3	4
T-DFT	211	Mechanisms	3	2	4
T-ISC	202	Quality Control	3	2	4
		Elective			4
			12	7	19
SIXTH QUARTER					
		Social Science Elective	3	0	3
T-ISC	203	Motion Study	3	2	4
T-MEC	235	Hydraulics and Pneumatics	3	3	4
		Elective			4
		Elective			4
			9	5	19
		Total Quarter Hours in Courses			96
		Electives (Min.)			12
		Total			108

TRANSPORTATION MAINTENANCE

Purpose of Curriculum

There is a growing need for transportation maintenance technicians to rebuild, test and service automotive units including diesel engines. The Service Managers Committee of the American Motors Association estimates that 45 to 50 thousand mechanics and technicians are needed each year to keep service shops properly manned. However, fewer than 10,000 recruits are entering the profession annually.

North Carolina, in its tremendous industrial growth, feels the need for more highly trained and skilled personnel in the automotive transportation field. Industry is dependent upon transportation for movement of raw materials and finished products. Automotive units and diesel engines are prime movers, and require technicians to service and maintain them for proper operation. This curriculum has been developed to train technicians for the transportation maintenance field.

The Transportation Maintenance Curriculum is designed for students who are interested in work on or related to motor vehicles. This curriculum provides for entrance into technician level employment areas. Principles of design and operation provide for an exact appreciation of the functions of automotive units. Correlated laboratory work develops ability to execute or supervise diagnostic tests and repairs.

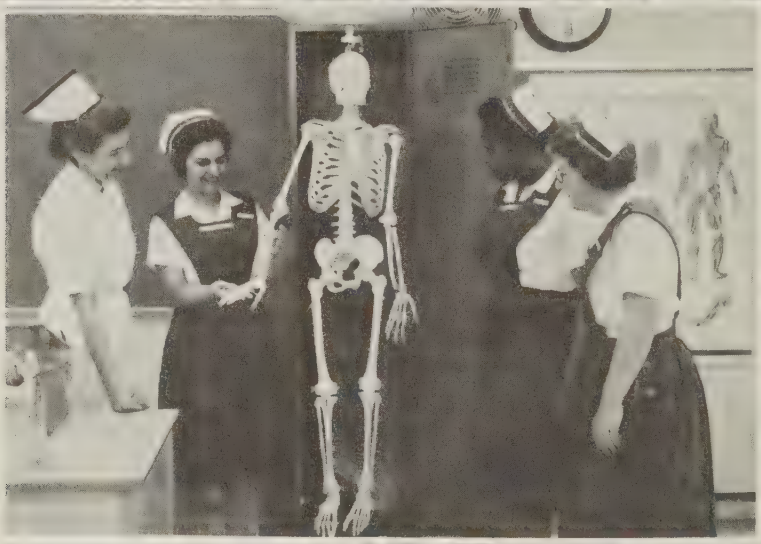
Job Description

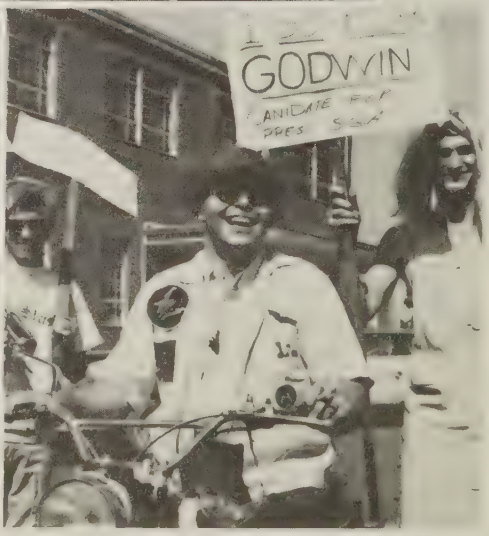
The transportation maintenance technician has a knowledge of laboratory procedures in automotive and associated areas. He is capable of operating laboratory equipment and instruments to perform a variety of tests on materials and equipment. Included also may be performance testing of new materials and equipment. As a diagnostician, he may, with the use of instruments, locate automotive or electrical defects and arrange for repair. He is often required to record data, write reports and make recommendations.

TRANSPORTATION MAINTENANCE

SUGGESTED CURRICULUM BY QUARTERS

Course Title			Hours Per Week Class	Lab.	Quarter Hours Credit
FIRST QUARTER					
T-ENG	101	Grammar	3	0	3
T-MAT	101	Technical Mathematics	5	0	5
T-PHY	101	Physics: Properties of Matter	3	2	4
T-DFT	111	Blueprint Reading and Sketching	0	3	1
T-MEC	101	Machine Processes	0	6	2
T-AUT	111	Internal Combustion Engines	4	3	5
			15	14	20
SECOND QUARTER					
T-ENG	102	Composition	3	0	3
T-MAT	102	Technical Mathematics	5	0	5
T-PHY	103	Physics: Electricity	3	2	4
T-MEC	102	Machine Processes	0	6	2
T-AUT	112	Internal Combustion Engines	4	6	6
			15	14	20
THIRD QUARTER					
T-ENG	103	Report Writing	3	0	3
T-PHY	102	Physics: Work, Energy, Power	3	2	4
T-PHY	209	Thermodynamics	3	0	3
T-AUT	121	Automotive Electrical Systems	3	3	4
T-AUT	125	Chassis Systems	2	6	4
			14	11	18
FOURTH QUARTER					
T-ENG	204	Oral Communications	3	0	3
T-CHM	101	Chemistry	4	2	5
T-MEC	235	Hydraulics and Pneumatics	3	3	4
T-AUT	221	Power Trains	3	6	5
T-AUT	213	Diesel Engines	2	3	3
			15	14	20
FIFTH QUARTER					
.....		Social Science Elective	3	0	3
T-AUT	226	Braking Systems	2	3	3
T-AUT	231	Diagnosis and Testing	2	6	4
.....	.....	Electives			5
			7	9	15
SIXTH QUARTER					
.....		Social Science Elective	3	0	3
T-AUT	240	Motor Vehicle Laws and Regulations	3	0	3
T-AUT	232	Diagnosis and Testing	2	6	4
.....	.....	Electives			5
			8	6	15
		Total Quarter Hours in Courses			98
		Electives (Min.)			10
		Total			108

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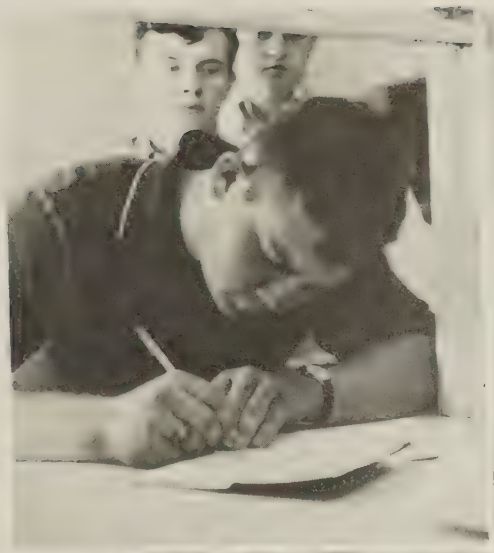
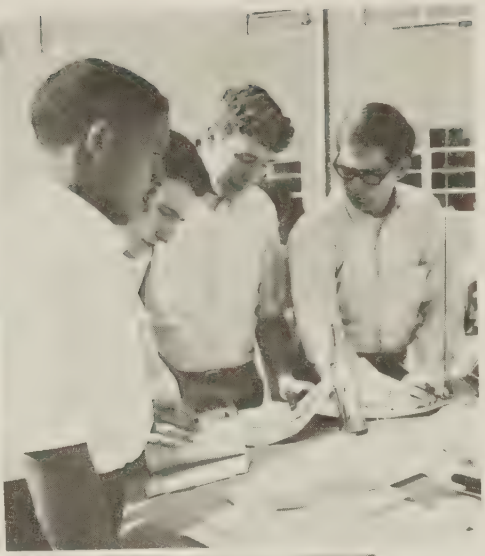
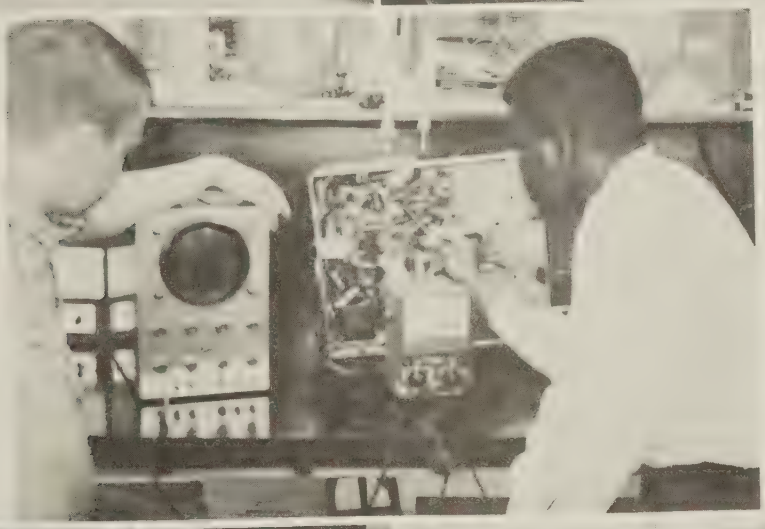
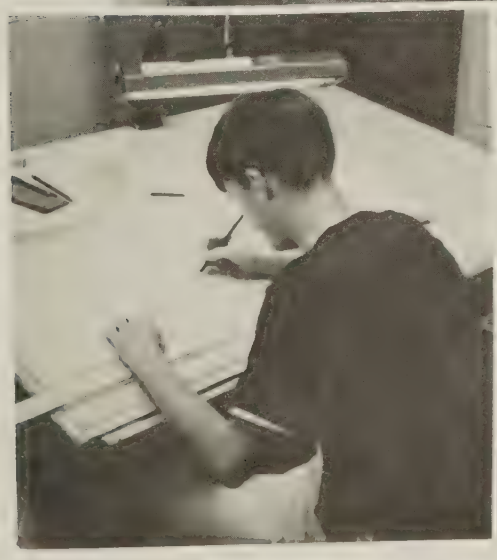








COURSE DESCRIPTION

AGRICULTURAL IMPLEMENTS

	Title of Course	Course Hours Per Week Class	Lab.	Quarter Hours Credit
T-AGR 111	**Tractor Engines I**	4	2	5

Tractor engine fundamentals. Principles of engine operation, including horsepower calculations, efficiency, combustion theory, types of engines, cylinder and valve arrangements, lubrication, fuel and cooling systems. Laboratory work consisting of demonstrations, disassembly, inspection and reassembly of various engines.
Prerequisite: None

T-AGR 112	**Tractor Engines II**	4	2	5

A study of tractor electrical systems, lubrication systems and lubricants.
Prerequisite: T-AGH 111

T-AGR 113	**Tractor Engines III**	4	2	5

Theoretical and practical study in correlating previous instruction by putting into practice engine operation, tuning and adjusting, including troubleshooting. This is performed in conjunction with the latest diagonostic equipment.
Prerequisites: T-AGR 111, T-AGR 112

T-AGR 115	**Tractor Hydraulic Systems**	3	2	4

The principles of hydraulics and their application to farm machinery. Components of tractor hydraulic systems, testing, maintenance and repair of hydraulic systems.
Prerequisite: None

T-AGR 116	**Applied Hydraulics**	1	2	2

A specialized study of tractor hydraulic systems with emphasis on demonstration, testing, maintenance, and repair of various systems, Class, laboratory, and field study of systems.
Prerequisite: T-AGR 115

T-AGR 119	**Techniques of Welding**	1	2	2

Principles of oxyacetylene and electrical welding, cutting and brazing. Principles, procedures, safety precautions and experience in using oxyacetylene and arc equipment. Projects are assigned to develop skill in the use of equipment. Includes the study of metals, rods, gases and special electric welding machinery.
Prerequisite: None

T-AGR 186	**Soils and Irrigation**	3	2	4

A review of the fundamental soil science principles with emphasis on those principles pertaining to the water relationships in the soil. A comprehensive study of irrigation systems — components, design, selection, operation, maintenance, repair, and sales.
Prerequisite: None

T-AGR 203	**Pesticide Application**	2	2	3

A study of the correct application of pesticides. Economics of custom application; equipment, precautions, and legal aspects of application.
Prerequisites: T-AGR 145, T-AGR 165

T-AGR 206 **Agricultural Finance** 3 0 3
Analysis of the capital structure of modern commercial agriculture with emphasis on the sources of credit. A review of lending institutions, repayment schedules, and credit instruments. Practice in the procedure of evaluating farm resources with attention to information needed for resource valuation, appraisal farms and procedures, discounting and depreciation.
Prerequisite: None

T-AGR 210 **Tractor Systems** 2 4 4
A comprehensive study of present-day automatic transmission, braking, and steering systems which are found on tractors.
Prerequisites: T-AGR 111, T-AGR 112

T-AGR 211 **Agricultural Diesels I** 4 2 5
Basic agricultural diesel engine principles, engine structure study, relationship of parts, exhaust systems, and thermodynamics of combustion. Although the course will be primarily a study of all diesel engines, emphasis will be placed on those particular points of interest pertaining to farm diesels.
Prerequisites: T-AGR 111, T-AGR 112, T-AGR 113

T-AGR 212 **Agricultural Diesels II** 2 4 4
Disassembly and reassembly of laboratory engines that would include the inspection, diagnosis, repair, and final assembly of these engines. Engines are to be run-in on a dynamometer. Includes a study of diesel fuel systems.
Prerequisite: T-AGR 211

T-AGR 214 **Farm Machinery I** 2 4 4
A study of the operating principles of simple farm implements. The selection, field operation, maintenance and repair of basic farm machinery such as plows, disks, harrows, and cultivators. Includes principles of design and mechanics, power supply, hitching, and economics of farm machinery use.
Prerequisite: None

T-AGR 215 **Farm Machinery II** 2 4 4
Care, repair, and selection of the larger units of farm equipment. Operating principles of self-propelled and tractor-drawn equipment will be studied in the classroom and the field. Such equipment as balers, combines, corn pickers, cotton pickers and peanut harvesters will be included.
Prerequisite: T-AGR 214

T-AGR 216 **Crop Processing and Handling Equipment** 3 2 4
A study of crop processing and handling equipment including drying and storage, materials handling, feed processing, tobacco harvesting and curing, cleaning and treating seeds, and farm transport equipment.
Prerequisite: None

T-AGR 220 **Parts and Service Management** 3 2 4
A study of the principles, practices, and procedures in the efficient and profitable operation of the parts and service departments of a farm equipment retail business.
Prerequisites: T-AGR 111, T-AGR 112

T-AGR 222 **Farm Electrification** 3 2 4
A study of the basic principles and systems, and their application to agricultural production with emphasis on equipment for controlling the utilization of electricity.
Prerequisite: None

AIR CONDITIONING AND REFRIGERATION

	Title of Course	Course Hours Per Week Class	Lab.	Quarter Hours Credit
T-AHR 101	**Fundamentals of Refrigeration I**	4	3	5

Terminology, laws of refrigeration, absolute pressure and absolute temperature, energy conversion units; specific heat, latent heat, and sensible heat; measurement of heat in quantity and intensity; tone of refrigeration, pressure temperature relationships, transfer of heat by conduction, convection and radiation; elementary refrigeration, refrigeration cycle and refrigerant controls. Tools, materials and methods applicable to air conditioning, and refrigeration.
Prerequisite: None.

T-AHR 102	**Fundamentals of Refrigeration II**	3	6	5

Refrigerants and their application in commercial refrigeration; system components, accessories, installation procedures and techniques; diagnosing service problems of mechanical difficulties; methods of defrosting; and making sketches of designs for high, medium, and low temperature installation. Symbols for refrigeration and piping equipment will be used in making sketches.
Prerequisites: T-AHR 101, T-PHY 101

T-AHR 103	**Commercial Refrigeration Systems Design**	3	6	5

Procedures of load calculating used in commercial refrigeration. Various types of installations are studied with emphasis on the product to be cooled, the desired temperatures to be maintained, and humidity conditions. Problems involving system balance and component capacity. Use of heat load charts, pipe sizing tables, manufactured data, and specification sheets.
Prerequisite: T-AHR 102

T-AHR 201	**Heating Principles**	3	4	5

Warm air systems, heat emmitters, electric heating, forced hot water and steam heating systems including selection and sizing of equipment—registers, grills, furnaces, boilers, radiators, baseboards, piping, and ducts. Fuels and burners used in supplying heat for various types of heating systems—coal, oil, natural gas, manufactured gas, liquified petroleum gas, and electricity. Experiments in equipment selection, installation, adjusting, and servicing will be conducted. Heating layout and specfications for an existing structure or one in blue print stage will be prepared.
Prerequisites: T-PHY 101, T-DFT 102

T-AHR 202	**Fuels and Burners**	2	3	3

Advanced course in heating systems with emphasis on new types of fuels and burners. Demonstrations and experiments with mock-ups and sample systems of gas, fuel oil and electrical installations. Experiments in equipment selection, installation, and maintenance will be conducted.
Prerequisite: T-AHR 201

T-AHR 203 **Air-Conditioning Principles** 5 6 7
An introduction to air distribution. Humidity, saturated and unsaturated mixtures; psychrometric charts and graphs; specific heat and air flow calculations, heat load calculations, the state of mixture of two air streams, bypass factor and dehumidification.
Prerequisite: T-AHR 103

T-AHR 209 **Air-Conditioning Systems Design** 5 6 7
Self-contained units, remote units, unitary systems and control systems. Chilled water units, air duct units, high velocity duct units. Air and/or water-cooled systems, centrifugal pressure systems, conventional systems, absorption systems, air-handling and filtering systems.
Prerequisites: T-AHR 203, T-AHR 201

T-AHR 210 **Installation and Design Problems** 2 6 4
This course will consist of making drawings from designs that emphasize commercial refrigeration and air-conditioning layouts. Information is gathered, calculations are made, schematic drawings are prepared, and specifications written for the specified installations.
Prerequisites: T-DFT 226, T-AHR 203

T-AHR 216 **Circuits and Controls I** 3 3 4
Electric, electronic and pneumatic controls as related to ventilation, refrigeration, and air-conditioning systems. Practice in layouts, including symbols and schematic diagrams. Laboratory work in installations of control systems. Test instruments and their use. System adjustments for proper operation.
Prerequisites: T-AHR 103, T-AHR 201, T-PHY 103

T-AHR 217 **Circuits and Controls II** 3 3 4
Practice in layouts, selection, installation and trouble-shooting of conventional refrigeration and air conditioning control systems. Class and laboratory work includes control of residential and commercial refrigeration, zone and central-fan systems, unit heaters and ventilators, peripheral air conditioning units and radiant-panel heating are studied.
Prerequisites: T-AHR 103, T-AHR 201, T-PHY 103, T-AHR 216

T-DFT 226 **Air-Conditioning Systems Drawing** 0 6 2
Drawing of air-conditioning systems and study of related architectural and structural elements. Sheet metal intersections and developments and types of duct installation. Air-conditioning and refrigeration layouts, diagrams, and schematics.
Prerequisites: T-DFT 102, T-AHR 103, T-AHR 201, T-AHR 216

T-AHR 227 **Estimating and Contracts** 3 6 5
Cost estimation, plans and specifications, equipment take-off, materials take-off, labor take-off, sub-contractors' estimates, overhead cost, and bid and contract procedures.
Prerequisites: T-AHR 203, T-DFT 226

T-AHR 230 **Seminar and Research** 1 4 3
Successful completion of the Air-Conditioning and Refrigeration Technology curriculum is climaxed by the student conducting a research project and writing a report on this project. The student, through consultation with the instructors, will choose an individual poject that will, when feasible, involve an actual installation. Frequent conferences with instructor will guide the student in the progress of research and in the preparation of the report.
Prerequisites: T-AHR 201, T-AHR 216, T-AHR 203

AUTOMOTIVE

TRANSPORTATION MAINTENANCE

	Title of Course	Course Hours Per Week Class	Lab.	Quarter Hours Credit
T-AUT 111	**Internal Comustion Engines**	4	3	5

A basic study of the internal combustion engine, theoretical cycles, physical principles of fueling, lubricating and cooling, and the nature and relationship of all components in the functioning engine. In the laboratory, engines are tested for performance characteristics while in operation.
Prerequisites: None.

T-AUT 112	**Internal Combustion Engines**	4	6	6

Emphasis upon proper fits, clearances, exact requirements of engines in common use, interpretation of manufacturers' specifications as related to engine principles, functional design relationships. The laboratory correlates with classroom work.
Prerequisites: T-AUT 111.

T-AUT 121	**Automotive Electrical Systems**	3	3	4

A study of electrical principles specifically related to the motor vehicle industry. Stress is placed on the construction, operation, and service of the following items: battery, generator, alternator, ignition system, wiring circuits, and voltage and current control devices. The student will receive instuction in the use of testing equipment and special tools used on electrical components. Laboratory correlates theory and practice in the actual use of equipment for testing and adjusting.
Prerequisites: T-PHY 103.

T-AUT 125	**Chassis Systems**	2	6	4

The principles of wheel and chassis alignment, suspension systems, static and dynamic wheel balancing, and steering geometry. The laboratory will include power steering units and other chassis units for investigation of theory, practice an design.
Prerequistes: None.

T-AUT 201	**Engine Rebuilding**	2	6'	4

A thorough study of the maintenance of the internat combustion engine. An investigation of factors affecting engine performance, testing methods and equipment, and calculations relative to performance comparisons. Laboratory work stresses the operation and maintenance of equipment required in the engine rebuilding process, correct methods of disassembly, cleaning, inspection of parts, and reassembly.
Prerequisites: T-AUT 213, T-MEC 102.

T-AUT 202	**Engine Rebuilding**	1	6'	3

Emphasis is given to the fits and tolerances of reworked parts and components. Laboratory experience is given on the more complex equipment to enable the student to complete the engine rebuilding process.
Prerequisite: T-AUT 201.

T-AUT 205 **Engine Overhaul** 2 6 4
A thorough study of the maintenance of the internal combustion engine. An investigation of factors affecting engine performance, testing methods and equipment, and calculations relative to performance comparisons. Laboratory work stresses the operation and maintenance of equipment required in engine overhauling process, correct methods of disassembly, cleaning, inspection of parts, and reassembly.
Prerequisites: T-AUT 213.

T-AUT 209 **Vehicle Servicing** 2 3 3
A comprehensive study of factors involved in vehicle servicing, periodic check-ups, minor and major tune-ups, the proper diagnosing and servicing procedures. The use of service manuals and service bulletins is stressed throughout.
Prerequisites: T-AUT 112, T-AUT 121, T-AUT 125, T-AUT 221.

T-AUT 213 **Diesel Engines** 2 3 3
Fuel analysis, air induction, fuel systems with emphasis on pumps, and injectors — their calibration and adjustments, combustion and precombustion chambers, and exhaust systems.
Prerequisite: T-AUT 112, T-PHY 209.

T-AUT 221 **Power Trains** 3 6 5
The study of bevel, spiral, worm, hypoid, and planetary gearing; rear axle design including positive traction units, driveshafts, universal joints; fluid couplings, torque convertors, servos, and control units as applied to the automatic transmission. The laboratory correlates theory and practice using various manufacturers units.
Prerequisite: T-PHY 102.

T-AUT 222 **Automatic Transmissions** 1 6 3
A study in depth of control mechanisms in automatic transmissions. Emphasis is placed on diagnosis of trouble, corrective measures to be taken, and testing of the repaired unit.
Prerequisite: T-AUT 221.

T-AUT 226 **Braking Systems** 2 3 3
The application of hydraulic and pneumatic principles to motor vehicle brake systems. Modes of braking and control systems including heavy duty brakes, vacuum assist, and air brakes.
Prerequisite: T-MEC 235.

T-AUT 231 **Diagnosis and Testing** 2 6 4
A comprehensive study of the principles of modern automotive test equipment including the dynamometer, engine analyzers, oscilloscopes, dwell meters, fuel and exhaust analyzers. The laboratory involves test runs to obtain engine power output and mechanical efficiency.
Prerequisites: T-AUT 112, T-AUT 121.

T-AUT 232 **Diagnosing and Testing** 2 6 4
Diagnostic testing procedures are emphasized in determining the nature of troubles that develop in various component systems found in motor transportation units. A thorough study and application of testing methods, equipment use, and the interpretation of test results. Outside reading concerning the latest test procedures and research performed by major companies will be assigned and discussed. Related laboratory studies will involve test runs, analysis of data and corrective maintenance.
Prerequisite: T-AUT 231.

T-AUT 235 **Power Accessories** 2 6 4
A study of various power units in general use on motor vehicles. Instruction in various power operated convenience and safety devices including tops, windows, seats, and speed control units. Also, power rake units, power steering units, and comfort control devices. Laboratory correlates practice in the operation and service of various units.
Prerequisite: T-AUT 121, T-MEC 235, T-PHY 209.

T-AUT 236 **Automotive Air Conditioning** 2 3 3
A general introduction to the principles of refrigeration. A study of the assembly components and connections necessary in the unit as applied to automobiles and trucks. The methods of operation and control. Safety precautions in the handling of refrigerants. Laboratory instruction includes installation and service of the air conditioning unit.
Prerequisite: TT-PHY 209.

T-AUT 246 **Motor Vehicle Laws and Regulations** 3 0 3
A basic study of motor vehicle laws and regulations of North Carolina including the state inspection requirements. An overview of interstate and intrastate I. C. C. and liability insurance requirements pertaining to motor carriers.
Prerequisite: None

T-AUT 243 **Vehicle Shop Management** 3 0 3
A compehensive study of shop planning and layout, including problems relating to equipment, operating cost, organization, insurance, public relations. Customer repair orders, factory warranty forms, and scheduling.
Prerequisite: None

BUSINESS

	Title of Course	Course Hours Per Week Class	Lab.	Quarter Hours Credit
T-BUS 101	**Introduction to Business**	5	0	5

A survey of the business world with particular attention devoted to the structure of the various types of business organization, methods of financing, internal organization, and management.
Prerequisite: None

T-BUS 102 **Typewriting** 2 3 3
Introduction to the touch typewriting system with emphasis on correct techniques, mastery of the keyboard, simple business correspondence, tabulation, and manuscripts.
Prerequisite: None

T-BUS 103 **Typewriting** 2 3 3
Instruction emphasizes the development of speed and accuracy with further mastery of correct typewriting techniques. These skills and techniques are applied in tabulation, manuscript, correspondence, and business forms.
Prerequisite: T-BUS 102 or the equivalent. Speed requirement, 30 words per minute for five minutes.

T-BUS 104 **Typewriting** 2 3 3
Emphasis on production typing problems and speed building. Attention to the development of the student's ability to function as an expert typist, producing mailable copies. The production units are tabulation, manuscript, correspondence, and business forms.
Prerequisite: T-BUS or the equivalent. Speed requirement, 40 words per minute for five minutes.

T-BUS 106 **Shorthand** 3 2 4
A beginning course in the theory and practice of reading and writing shorthand. Emphasis on phonetics, penmanship, word families, brief forms, and phrases.
Prerequisite: None

T-BUS 107 **Shorthand** 3 2 4
Continued study of theory with greater emphasis on dictation and elementary transcription.
Prerequisite: T-BUS 106 or the equivalent

T-BUS 108 **Shorthand** 3 2 4
Theory and speed building. Introduction to office style dictation. Emphasis on development of speed in dictation and accuracy in transcription.
Prerequisite: T-BUS 107

T-BUS 110 **Office Machines** 2 2 3
A general survey of the business and office machines. Students will receive training in techniques, processes, operating and application of the ten-key adding machines, full keyboard adding machines, and calculator.
Prerequisite: None

T-BUS 112 **Filing** 3 0 3
Fundamentals of indexing and filing, combining theory and practice by the use of miniature letters, filing boxes and guides. Alphabetic, Triple Check, Automatic, Geographic, Subject, Soundex, and Dewey Decimal filing.
Prerequisite: None

T-BUS 115 **Business Law** 3 0 3
A general course designed to acquaint the student with certain fundamentals and principles of business law, including non-negotiable instruments, and agencies.
Prerequisite: None

T-BUS 116 **Business Law** 3 0 3
Includes the study of laws pertaining to bailments, sales, risk-bearing, partnership-corporation, mortgages, and property rights.
Prerequisite: T-BUS 115.

T-BUS 120 **Accounting** 5 2 6
Principles, techniques and tools of accounting, for understanding of the mechanics of accounting. Collecting, summarizing, analyzing, and reporting information about service and mercantile enterprises, to include practical application of the principles learned.
Prerequisite: T-MAT 110

T-BUS 121 **Accounting** 5 2 6
Partnership and corporation accounting including a study of payrolls, federal and state taxes. Emphasis is placed on the recording, summarizing and interpreting data for management control rather than on bookkeeping skills. Accounting services are shown as they contribute to the recognition and solution of management problems.
Prerequisite: T-BUS 120

T-BUS 123 **Business Finance** 3 0 3
Financing of business units, as individuals, partnerships, corporations, and trusts. A detailed study is made of short-term, long-term, and consumer financing.
Prerequisite: None

T-BUS 178 **Traffic and Transportation** 3 0 3
An introductory course covering the American transportation system. Emphasis is placed on developments leading to the legislative supervision of the carriers, freight traffic territories, traffic flow, freight classifications, freight rates, and freight claims.
Prerequisite: None

T-BUS 179 **Traffic and Transportation** 3 0 3
A study of the construction and filing of tariffs, freight rates, terminal facilities, storage, weights, routing, warehousing, and material handling.
Prerequisite: T-BUS 178

T-BUS 205 **Advanced Typewriting** 2 3 3
Emphasis is placed on the development of individual production rates. The student learns the techniques needed in planning and in typing projects that closely approximate the work appropriate to the field of study. These projects include review of letter forms, methods of duplication, statistical tabulation, and the typing of reports, manuscripts and legal documents.
Prerequisite: T-BUS 104. Speed requirement, 50 words per minute for five minutes.

T-BUS 206E **Dictation and Transcription** 3 2 4
Develops the skill of taking dictation and of transcribing at the typewriter materials appropriate to the course of study, which includes a review of the theory and the dictation of familiar and unfamiliar material at varying rates of speed. Minimum dictation rates of 100 words per minute required for five minutes on new material.
Prerequisite: T-BUS 108

T-BUS 207E **Dictation and Transcription** 3 2 4
Covering materials appropriate to the course of study, the student develops the accuracy, speed, and vocabulary that will enable her to meet the stenographic requirements of business and professional offices. Minimum dictation rate of 110 words per minute required for five minutes on new material.
Prerequisite: T-BUS 206

T-BUS 208E **Dictation and Transcription** 3 2 4
Principally a speed building course, covering materials appropriate to the course of study, with emphasis on speed as well as accuracy. Minimum dictation rate of 120 words per minute required for five minutes on new material.
Prerequisite: T-BUS 207

T-BUS 211 **Office Machines** 2 2 3
Instructions in the operation of the bookkeeping - accounting machines, duplicating equipment, and the dictating and transcribing machines.
Prerequisite: T-BUS 110

T-BUS 214 **Secretarial Procedures** 3 2 4
Designed to acquaint the student with responsibilities encountered by a secretary during the work day. These include the following: receptionist duties, handling the mail, telephone techniques, travel information, telegrams, office records, purchasing of supplies, office organization, and insurance claims.
Prerequisite: None

T-BUS 215E **Office Application** 6 0 6
During the sixth quarter only, students are assigned to work in a business, technical, or professional office for six hours per week. The objective is to provide actual work experience for secretarial students and an opportunity for the practical application of the skills and knowledge previously learned, according to the course of study.
Prerequisite: T-BUS 214, T-BUS 205, T-BUS 208, T-BUS 211

T-BUS 219 **Credit Procedures and Problems** 3 0 3
Principles and practices in the extension of credit; collection procedures; laws pertaining to credit extension and collection are included.
Prerequisite: T-BUS 120

T-BUS 223 **Accounting** 5 2 6
Additional study of intermediate accounting with emphasis on investments, plant and equipment, intangible assets and deferred charges, long-term liabilities, paid-in capital, retained earnings, and special analytical processes.
Prerequisite:T-BUS 222

T-BUS 219 **Credit Procedures and Problems** 3 0 3
Principles and practices in the extension of credit; collection procedures; laws pertaining to credit extension and collection are included.
Prerequisite: T-BUS 120

T-BUS 222 **Accounting** 5 2 6
Thorough treatment of the field of general accounting, providing the necessary foundation for specialized studies that follow. The course includes, among other aspects, the balance sheet, income and surplus statements, fundamental processes of recording, cash and temporary investments, and analysis of working capital.
Prerequisite: T-BUS 121

T-BUS 225 **Cost Accounting** 3 2 4
Nature and purposes of cost accounting; accounting for direct labor, materials, and factory burden; job cost, and standard cost principles and procedures; selling and distribution cost; budgets, and executive use of cost figures.
Prerequisite: T-BUS 121

T-BUS 227 **Advanced Accounting** 3 2 4
Advanced accounting theory and principles as applied to special accounting problems, bankruptcy proceedings, estates and trusts, consolidation of statements, parent, and subsidiary accounting.
Prerequisite: T-BUS 223.

T-BUS 229 **Taxes** 3 2 4
Application of federal and state taxes to various businesses and business conditions. A study of the following taxes: income, payroll, intangible, capital gain, sales and use, excise, and inheritance.
Prerequisite: T-BUS 121

T-BUS 232 **Sales Development** 3 0 3
A study of retail, wholesale and specialty selling. Emphasis is placed upon mastering and applying the fundamentals of selling. Preparation for and execution of sales demonstrations required.
Prerequisite: None

T-BUS 233 **Pesonnel Management** 3 0 3
Principles of organization and management of personnel, procurement, placement, training, performance checking, supervision, remuneration, labor relations, finge benefits and security.
Prerequisite: None

T-BUS 235 **Business Management** 3 0 3
Principles of business management including overview of major functions of management such as planning, staffing, controlling, directing, and financing. Clarification of the decision-making function versus the operating function. Role of management in business—qualifications and requirements.
Prerequisite: None

T-BUS 237 **Wholesaling** 3 0 3
The development of wholesaling; present day trends in the United States. A study of the functions of wholesaling.
Prerequisite: None

T-BUS 239 **Marketing** 5 0 5
A general survey of the field of marketing, with a detailed study of the functions, policies, and institutions involved in the marketing process.
Prerequisite: None

T-BUS 245 **Retailing** 3 0 3
A study of the role of retailing in the economy including development of present retail structure, functions performed, principles governing effective operation and managerial problems resulting from current economic and social trends.
Prerequisite: None

T-BUS 247 **Business Insurance** 3 0 3
A presentation of the basic principles of risk insurance and their application. A survey of the various types of insurance is included.
Prerequisite: None

T-BUS 243 **Advertising** 3 2 4
The role of advertising in a free economy and its place in the media of mass communications. A study of advertising appeals; product and market research; selection of media; means of testing effectivieness of advertising. Theory and practice of writing advertising copy for various media.
Prerequisite: None

T-BUS 255 **Interpreting Accounting Records** 3 0 3
Designed to aid the student in developing a "use understanding" of accounting records, reports and financial statements. Interpretation, analysis, and utilization of accounting statements.
Prerequisite: T-BUS 121

T-BUS 266 **Budget and Record Keeping** 3 0 3
The basic principles, methods, and procedures for preparation and operation of budgets. Special attention is given to the involvement of individual departments and the role they play. Emphasis on the necessity for accurate record keeping in order to evaluate the effectiveness of budget planning.
Prerequisite: T-BUS 121

T-BUS 269 **Auditing** 3 2 4
Principles of conducting audits and investigations; setting up accounts based upon audits; collecting data on working papers; arranging and systemizing the audit, and writing the audit report. Emphasis placed on detailed audits, internal auditing, and internal control.
Prerequisite: T-BUS 223

T-BUS 271 **Office Management** 3 0 3
Presents the fundamental principles of office management. Emphasis on the role of office management including its functions, office automation, planning, controlling, organizing and actuating office problems.
Prerequisite: None

T-BUS 272 **Principles of Supervision** 3 0 3
Introduces the basic responsibilities and duties of the supervisor and his relationship to superiors, subordinates, and associates. Emphasis on securing an effective work force and the role of the supervisor. Methods of supervision are stressed.
Prerequisite: None

T-BUS 280 **Traffic and Transportation** 3 0 3
Stresses through-route and rates, milling in transit, technical tariff and rate interpretation, overcharges and undercharges, loss and damage, import and export tariff, classification committee procedure, and rate committee procedure.
Prerequisite: T-BUS 179

T-BUS 281 **Traffic and Transportation** 3 0 3
To acquaint the student with the application of the Interstate Commerce Act to practical transportation and the general procedure of requesting changes before the Interstate Commerce Commission.
Prerequisite: T-BUS 280

T-BUS 285 **ICC Law** 3 0 3
Designed to aid the student in making a thorough analysis of the Interstate Commerce Act; review history of Act and related acts.
Prerequisite: T-BUS 116

T-BUS 286 **ICC Law** 3 0 3
A detailed study is made of the procedure policy involved in appearing before the Interstate Commerce Commission.
Prerequisite: T-BUS 285

T-BUS 287 **ICC Law** 3 0 3
Devoted to case study of applications of the Interstate Commerce Act.
Prerequisite: T-BUS 286

T-BUS 290 **Motor Carrier** 3 0 3
An introduction to special problems relating to tariffs and rates of motor carriers.
Prerequisite: None

T-BUS 291 **Motor Carrier** 3 0 3
A continuation of special problems relating to tariffs, rates, circulars, pertaining to the Motor Carrier field.
Perequisite: T-BUS 290

T-BUS 295 **Traffic Claims** 3 0 3
Designed to provide knowledge about rights and liabilities of carriers, consigners, and consignees; claims, their procedure settlement, and prevention.
Prerequisite: None

T-BUS 298 **Material Handling** 3 0 3
A study of basic containers and equipment, packaging and material protection, standardization, warehousing, traffic, and shipping. The various analytical approaches used in formulating materials handling improvements in existing or proposed operations.
Prerequisite: None

T-BUS 299 **Traffic Management** 3 0 3
Develops the purpose, function, and operation of traffic management; illustrates the differences in various areas of traffic; and shows relationship to other business operations.
Prerequisite: None

DRAFTING

	Title of Course	Course Hours Per Week Class	Lab.	Quarter Hours Credit
T-DFT 101	**Technical Drafting**	0	6	2

The field of drafting is introduced as the student begins study of drawing principles and practices for print reading and describing objects in the graphic language. Basic skills and techniques of drafting included are: use of drafting equipment, lettering, freehand orthographic and pictorial sketching, geometric construction, orthographic instrument drawing of principal views, and standards and practices of dimensioning. The principles of isometric, oblique, and perspective are introduced.
Prerequisite: None

T-DFT 102 **Technical Drafting** 0 6 2
The application of orthographic projection principles to the more complex drafting problems, primary and secondary auxiliary views, simple and successive revolutions, and sections and conventions will be studied. Most important is the introduction of the graphical analysis of space problems. Problems of practical design elements involving points, lines, planes, and a combination of these elements shall be studied. Dimensioning

practices for "details" and "working drawings," approved by the American Standards Association will also be included. Introduction is given to intersections and developments of various types of geometrical objects.
Prerequisite: T-DFT 101

T-DFT 103 **Technical Drafting** 0 6 2
Intersection and developments and their practical solutions. Where applicable, model solutions accompany the problems. The various techniques employed to produce and render isometric and oblique drawings, isometric, dimetric and trimetric projections, will be included.
Prerequisite: T-DFT 102

T-DFT 111 **Blueprint Reading and Sketching** 0 3 1
Reading and interpretation of blueprints, drawings, charts, wiring diagrams, service manuals and associated information. Practice in free-hand sketching of wiring diagrams and parts using basic principles of lines, views, and dimensions.
Prerequisite: None

T-DFT 201 **Technical Drafting** 2 6 4
Applications and constructions of charts, graphs, and nomographs in engineering and technical data. Screw threads, springs, keys, rivets, piping, and welding symbols, methods of representing and specifying will be covered. Basic mechanisms of motion transfer, gears and cams, will be studied and drawn with emphasis on methods of specifying, calculating, dimensions, and delineating.
Prerequisite: T-DFT 103

T-DFT 204 **Descriptive Geometry** 2 4 4
Graphic analysis of space problems involving points, lines, planes, connectors, and a combination of these. Practical design problems will be stressed with analytical verification where applicable. Visualization shall be stressed on every problem.
Prerequisites. T-DFT 102, T-MAT 102

T-DFT 205 **Design Drafting I** 2 6 4
Basic design is introduced in the study of motion transfer mechanisms as they relate to power trains. Principles of design sketching, design drawing, layout drafting, detailing from layouts, production drawings and simplified drafting practices constitute areas of study. Types and methods of specifying materials and workmanship are an integral part of the course.
Prerequisites: T-DFT 204, T-MAT 102, T-PHY 102

T-DFT 206 **Design Drafting II** 2 6 4
Research to solve a problem in design by consulting various manuals, periodicals, and through laboratory experiments. A written technical report, preliminary design sketches, layout drawings, retail drawings, assembly and sub-assembly drawings pictorial drawings, exploded pictorial assembly, patent drawings and specifications are required as a part of the problem.
Prerequisites: T-DFT 205, T-DFT 210

T-DFT 211 **Mechanisms** 3 2 4
Mathematical and drafting room solutions of problems involving the principles of machine elements. Study of motions of linkages, velocities and acceleration of points within a link mechanism; layout methods for designing cams, elts, pulleys, gears and gear trains.
Prerequisites: T-DFT 201 & 204, T-MAT 103, T-PHY 106

T-DFT 212 **Jig and Fixture Design** 2 6 4
Commercial standards. principles, practices and tools of jig and fixture design. Individual project and design work to acquaint students with the types of jigs and fixtures and their design.
Prerequisites: T-DFT 205, A-DFT 211

DATA PROCESSING

	Title of Course	Course Hours Per Week Class	Lab.	Quarter Hours Credit
T-EDP 104	**Introduction to Data Processing Systems**	3	2	4

Fundamental concepts and operational principles of data processing systems, as an aid in developing a basic knowledge of computers, prerequisite to the detailed study of particular computer problems. This course is a prerequisite for all programming courses.
Prerequisite: None

ECONOMICS

	Title of Course	Course Hours Per Week Class	Lab.	Quarter Hours Credit
T-ECO 108	**Consumer Economics**	3	0	3

Designed to help the student use his resources of time, energy, and money to get the most out of life. It gives the student an opportunity to build useful skills in buying, managing his finances, increasing his resources, and to understand better the economy in which he lives.
Prerequisite: None

T-ECO 102 **Economics** 3 0 3
The fundamental principles of economics including the institutions and practices by which people gain a livelihood. Included is a study of the laws of supply and demand and the principles bearing upon production, exchange, distribution, and consumption both in relation to the individual enterprise and to society at large.
Prerequisite: None

T-ECO 104 **Economics** 3 0 3
Greater depth in principles of economics, including a penetration into the composition and pricing of national output, distribution of income, international trade and finance, and current economic problems.
Prerequisite: T-ECO 102

T-ECO 106 **Economics of Transportation** 3 0 3
Acquaints the student with the economic aspects of transportation. Complete discussion from the earliest form of basic transportation to our present complex system of transportation. In addition to the historical approach, consideration is given to the economic factors involved in plant location and principles involved in present-day developments of transportation.
Prerequisite: T-ECO 102

ELECTRICITY

	Title of Course	Course Hours Per Week Class	Lab.	Quarter Hours Credit
T-ELC 101	**Fundamentals of Electricity**	4	4 or 6	6

Elementary principles of electricity including: basic electric units, Ohms law, Kirchoffs law, network theorems, magnetics, basic electrical measuring instruments, inductance, capacitance, sine wave analysis, and non-resonant resistive, inductive and capacitive networks.
Prerequisite: None

T-ELC 102	**Fundamentals of Electricity**	4	4 or 6	6

Series and parallel resonant-circuit analysis, resonant and non-resonant transformer analysis, basic diode power supply analysis, intoduction to non-linear resistive control devices, and introduction to electro-mechanical devices.
Prerequisite: T-ELC 101

T-ELC 201	**Electrical Machinery**	3	0	3

A course in the basic understanding and application of electricity to modern industrial machinery. Included is a study of direct current motors, motor controls and protecting devices, transformers, and the industrial applications of this equipment.
Prerequisite : T-PHY 103

T-ELC 210	**Rotating Devices**	2	2	3

Introduction to electrical machinery. AC and DC motor and generator principles, synchros and servomechanisms, alternators and dynamotors, Ward-Leonard and amplidyne control systems will be analyzed. A general knowledge of the theory, operation, and maintenance of these devices and systems will be stressed.
Prerequisites: T-ELC 102, T-PHY 102

ELECTRONICS

	Title of Course	Course Hours Per Week Class	Lab.	Quarter Hours Credit
T-ELN 101	**Electronic Instruments and Measurements**	1	4 or 6	3

A study of basic electronic instruments, their theory of operation, function, tolerances, and calibration. Both service and laboratory instruments will be studied. Laboratory experience will provide application of each type instrument studied.
Prerequisite: T-ELC 102

T-ELN 105	**Control Devices**	5	4 or 6	7

A study in depth of the electrical characteristics of vacuum tubes and transistors. Basic parameters and applications of each type device to the three configurations of a three terminal two port system will be included.
Prerequisite: T-ELC 102

T-ELN 201	**Industrial Controls**	3	2	4

Industrial controls is the study of modern methods of controlling machinery by electronic circuitry. Machinery controls and electronic mechanisms that automatically operate machines

will be studied. Types of motors, generators, control signals and devices, thyratrons, gates, switches, and servomechanism circuits are major areas of study.
Prerequisite: T-PHY 103

T-ELN 205 **Applications of Vacuum Tubes and Transistors** **5** **4 or 6** **7**
Practical applications of vacuum tubes and transistors to basic audio amplifiers, radio frequency amplifiers, detectors, modulators and oscillators.
Prerequisite: T-ELN 105

T-ELN 210 **Semiconductor Circuit Analysis** **5** **2 or 3** **6**
A study in some depth of the analysis and design of transistor circuits. Network theorems and equivalent circuits are used extensively in evaluating total circuit performance. Device peculiarities and limitations pertinent to reliable operations are considered. H. Y. Z. and T. parameters are employed as well as signal-flow graphs.
Prerequisite: T-ELN 105

T-ELN 214 **Wave Shaping and Pulse Circuits** **2** **2 or 3** **3**
Broadband amplifiers, magnetic amplifiers, multivibrators, wave shaping techniques, chopper amplifiers, clipper and clamper circuits.
Prerequisites: T-ELN 105, T-MAT 103

T-ELN 215 **Wave Shaping and Pulse Circuits** **2** **2 or 3** **3**
Pulse techniques, diode switches, gates, step-counters, restorers and other specific circuits which function as switches.
Prerequisite: T-ELN 214

T-ELN 220 **Electronic Systems** **5** **4 or 6** **7**
A block diagram course investigating numerous electronic systems. Modules or blocks of various circuits already studied are arranged in various manners to produce complex electonic systems. Systems will be explained and reduced to functions and then to block diagrams. AM, FM, and Single Sideband transmitters and receivers, multiplexing, TV transmitters and receivers, pulse-modulated systems, computers, telemetry, navigational systems, sonar and radar will be considered.

T-ELN 227 **UHF and Microwave Systems** **5** **4** **7**
A study of UHF and VHF components, circuits, and measurement techniques. The use of distributed constant elements, waveguides and coaxial cables, microwave links, high frequency oscillators, magnetrons, klystrons, traveling wave tubes. An introduction to the use of the Smith Chart.
Prerequisite: T-ELN 225

T-ELN 225 **Transmission and Propagation** **3** **0** **3**
An introduction to the electromagnetic radiation, principles of antenna, radiation patterns and field strength. The characteristics and use of transmission lines in radio frequency application. Factors involved in propagation, ground waves, reflections, sky waves, atmospheric effects, ionosphere, fading, noise, static, wire radiators, directive gain, effect of ground, impedence, antenna systems and arrays.
Prerequisite: T-ELN 105
Corequisite: T-ELN 205

T-ELN 230 **Television Systems** 4 6 7
A study of the principles of television including the television system, camera tubes, scanning and synchronization, composite video signal, receiver circuits, transmitting equipment, color television, and closed-loop systems.
Corequisite: T-ELN 214

T-ELN 240 **Industrial Instrumentation** 4 6 7
Broad introduction to use of industrial electro-mechanical and electronic circuits and equipment. Provides an understanding of the methods, techniques, and skills required for installation, service and operation of a variety of industrial control systems. Analysis of sensing devices for detecting changes in pressure, temperature, humidity, sound, light, electricity, the associated circuitry and indicating and recording devices.
Prerequisites: T-ELN 205, T-PHY 104

T-ELN 235 **Digital Computers** 3 0 3
An exploration into the methodology of counting and computing. Various computer techniques will be investigated including: non-sinusoidal waveforms, binary and decade counters, industrial counters, readout devices, logic circuits, arithmetic circuits, storage devices, input-output devices, computer control, analog and digital converters.
Prerequisite: T-ELN 214

T-ELN 245 **Electronic Design Project** 0 4 2
Students are required to design and construct a project approved by the instructor. Includes selection of project, design, construction, and testing of completed project. Projects may include: AM or FM transmitters or receivers, amplifiers, test equipment, control devices, simple counters, lasers, masers, etc.
Prerequisite: T-ELN 205

ENGLISH

	Title of Course	Course Hours Per Week Class	Lab.	Quarter Hours Credit
	FIRST QUARTER			
T-ENG 101	**Grammar**	3	0	3

Designed to aid the student in the improvement of self-expression in grammar. The approach is functional with emphasis on grammar, diction, sentence structure, punctuation, and spelling. Intended to stimulate students in applying the basic principles of English grammar in their day-to-day situations in industry and social life.
Prerequisite: None

T-ENG 102 **Composition** 3 0 3
Designed to aid the student in the improvement of self-expression in business and technical composition. Emphasis is on the sentence, paragraph and whole composition.
Prerequisite: T-ENG 101

T-ENG 103 **Report Writing** 3 0 3
The fundamentals of English are utilized as a background for the organization and techniques of modern report writing. Exercises

in developing typical reports, using writing techniques and graphic devices are completed by the students. Practical application in the preparation of a full-length report is required for each student at the end of the term. This report must be related to something in his chosen curriculum.
Prerequisite: T-ENG 102

T-ENG 204 **Oral Communication** 3 0 3
A study of basic concepts and principles of oral communications to enable the student to communicate with others. Emphasis is placed on the speaker's attitude, improving dictation, voice, and the application of particular techniques of theory to correct speaking habits and to produce effective oral presentation. Particular attention given to conducting meetings, conferences, and interviews.
Prerequisite: T-ENG 101

T-ENG 206 **Business Communication** 3 0 3
Develops skills in techniques in writing business communications. Emphasis is placed on writing action-getting sales letters and prospectuses. Business reports, summary of business conference, letters involving credit, collections, adjustments, complaints, orders, acknowledgments, remittances, and inquiry.
Prerequisite: T-ENG 102

INDUSTRIAL CONTROL

	Title of Course	Course Hours Per Week Class	Lab.	Quarter Hours Credit
T-ISC 201	**Industrial Organization and Management**	3	0	3

Organizational structure for industrial management; operational and financial activities, including accounting, budgeting, banking, credit and industrial risk, forecasting of markets, selection and layout of physical facilities; selection, training and supervision of personnel as found in typical industrial organizations.
Prerequisite: None

T-ISC 202 **Quality Control** 3 2 4
Principles and techniques of quality control and cost saving. Organization and procedure for efficient quality control. Functions, responsibilities, structure, costs, reports, records, personnel and vendor-customer relationships in quality control. Sampling inspections, process control and tests for significance.
Prerequisite: None

T-ISC 203 **Motion Study** 3 2 4
Types of methods studies and their applications. Process charts, analysis sheets, time study, work simplification, skill and effort rating.
Prerequisite: None.

T-ISC 204 **Value Analysis** 3 0 3
The modern concept in the control of manufacturing production. This course will provide the students an opportunity to study a production system with the specific purpose of identifying unnecessary costs. The objective of the concepts and techniques of value and analysis is to make possible a degree of effectiveness in **identifying** and **removing** unnecessary cost by use of sound decisions through a common sense approach.
Prerequisite: None

T-ISC 209 **Plant Layout** 3 2 4
A practical study of factory planning with emphasis on the most efficient arrangements of work areas to achieve lower manufacturing costs. Layouts for small and medium-sized plants, layout fundamentals, selection of production equipment and materials handling equipment. Effective management of men, money and materials in a manufacturing operation.
Prerequisites: T-MEC 201, T-DFT 102

MATHEMATICS

	Title of Course	Course Hours Per Week Class	Lab.	Quarter Hours Credit
T-MAT 101	**Technical Mathematics**	5	0	5

The real number system is developed as an extension of natural numbers. Number systems of various bases are introduced. Fundamental algebraic operations, the rectangular coordinate system, as well as fundamental trigonometric concepts and operations are introduced. The application of these principles to practical problems is stressed.
Prerequisite: Satisfactory evidence that admission requirements have been met.

T-MAT 102 **Technical Mathematics** 5 0 5
A continuation of T-MAT 101. Advanced algebraic and trigonometric topics including quadratics, logarithms, determinants, progressions, the binomial expansion, complex numbers, solution of oblique triangles and graphs of the trigonometric functions are studied in depth.
Prerequisite: T-MAT 101

T-MAT 103 **Technical Mathematics** 5 0 5
The fundamental concepts of analytical geometry, differential and integral calculus are introduced. Topics included are graphing techniques, geometric and algebraic interpretation of the derivation, differentials, rate of change, the integral and basic integration techniques. Applications of these concepts to practical situations are stressed.
Prerequisite: T-MAT 102

T-MAT 110 **Business Mathematics** 5 0 5
This course stresses the fundamental operations and their application to business problems. Topics covered include payrolls, price marking, interest and discount, commission, taxes, and pertinent uses of mathematics in the field of business.
Prerequisite: None

T-MAT 201 **Technical Mathematics** 5 0 5
A continuation of T-MAT 103. More advanced concepts of differentiation and integration are considered. Included are graphs and derivatives of the trigonometric functions, exponential and logarithmic differentiation and integration, advanced integration techniques, polar equations, parametric equations, and Fourier series.
Prerequisite: T-MAT 103

T-MAT 208 **Calculus and Laplace Transforms for Electronics** 5 0 5

An investigation of the methods of calculus which are of the most direct use in the study of electronic circuits. Introduction to selected topics from differential equations and Laplace transforms and applications of these methods to the solution of electronic circuit problems.
Prerequisite: T-MAT 201
Corequisite: T-ELN 214

MECHANICAL

	Title of Course	Course Hours Per Week Class	Lab.	Quarter Hours Credit
T-MEC 101	**Machine Processes**	0	6	2

An introductory course designed to acquaint the student with basic hand tools, safety procedures and machine processes of our modern industry. It will include a study of measuring instruments, characteristics of metals and cutting tools. The student will become familiar with the lathe family of machine tools by performing selected operations such as turning, facing, threading, drilling, boring, and reaming.
Prerequisite: None

T-MEC 102 **Machine Processes** 0 6 2

Advanced operations on lathe, drilling, boring and reaming machines. Milling machine theory and practice. Thorough study of the types of milling machines, cutters, jig and fixture devices, and the accessories used in a modern industrial plant. Safety in the operational shop is stressed.
Prerequisite: T-MEC 101

T-MEC 103 **Machine Processes** 0 6 2

Modern machine tools of industry. Theory and practice with shaper, slotter, planer, turrent lathe, screw machine, grinding and finishing machines. Gear design and the processes of gear manufacturing.
Prerequisite: T-MEC 102

T-MEC 110 **Fundamental Mechanisms** 2 4 4

A study of the purpose and actions of cams, cales, gear trains, differentials, screws, elts, pulleys, shafts, levers, and other mechanical devices used to transmit or control signals.
Prerequisite: T-PHY 102

T-MEC 120 **Welding Techniques** 0 3 1

Principles of oxyacetylene welding and cutting, and brazing. Basic principles, procedures, safety, and experience in using arc welding equipment.
Prerequisite: None

T-MEC 201 **Machine Processes** 2 6 4

Newer concepts of work handling and automatic machining process. Chipless production and new techniques in metal forming. Analysis of high-energy forming, ultrasonic machining, electrolytic metal removal, chemical milling, numerical controls and simplified building block numerical control systems.
Prerequisite: T-MEC 103

T-MEC 205 **Strength of Materials** 3 2 4
Study of principles and analysis of stresses which occur within machine and structure elements subjected to various types of loads such as stator impact, varying and dynamic. Analysis of these stresses are made as applied to thin-walled cylinders and spheres, riveted and welded joints, beams, columns and machine components.
Prerequisites: T-PHY 106, T-MAT 103

T-MEC 210 **Physical Metallurgy** 3 3 4
Introductory course in metallurgy, a basic study of the properties of metals and alloys. Analysis of the structure of metals and alloys, atomic structure, nuclear structure, and nuclear reactions. Solid (crystalline) structures, methods of designating crystal planes; liquid and vapor phases; phase diagrams; and alloy systems.
Prerequisite: T-PHY 101

T-MEC 211 **Physical Metallurgy** 3 3 4
Properties of metals and alloys, the reaction of metals, diffusion, carburzing, metal bonding and homogenization; recrystallization and grain growth, age hardening, nitriding, internal oxidation; heat treatment of steel; laboratory experiments and demonstrations.
Prerequisite: T-MEC 210

T-MEC 212 **Practical Automation** 3 2 4
A comprehensive study of automation as it is interpreted and practiced by American industry of today. The fundamentals of automation and its effects in industrial productivity, labor supply and demand, equipment and processes. Students will solve problems encountered while installing an automated system.
Prerequisite: None

T-MEC 213 **Production Planning** 3 3 4
Day-to-day plant direction; forecasting, product planning and control, scheduling, dispatching, routing, and inventory control. Case histories are discussed in the classroom, and courses of corrective action are developed. Drafting room layouts for planning and control.
Prerequisite: T-DFT 102
Corequisite: T-MEC 201

T-MEC 214 **Tool Engineering** 3 0 3
An introduction to the problems of tool engineering with emphasis on planning the processes of production, designing and developing the necessary tools, and utilizing available manufacturing facilities; practical analysis and comparison of the use and cost of tools, jigs and fixtures, dies, molds, and gauges as they are utilized in our modern day manufacturing and production methods.
Prerequisites: T-DFT 102, T-MEC 201

T-MEC 235 **Hydraulics and Pneumatics** 3 3 4
The basic theories of hydraulic and pneumatic systems. Combinations of systems in various circuits. Basic designs and functions of circuits and motors, controls, electrohydraulic servomechanisms, plumbing, filtration, accumulators and reservoirs.
Prerequisite: T-PHY 102

T-MEC 237 **Control Systems** 2 4 4
Hydraulic, pneumatic, mechanical, electrical and electronic control systems and components. Basic description, analysis and explanation of operation. Typical performance characteristics, limitations on performance, accuracy, applications and their utilization in industrial processes.
Prerequsites: T-PHY 102, T-ELC 201

PHYSICAL SCIENCE

	Title of Course	Course Hours Per Week Class	Lab.	Quarter Hours Credit
T-CHM 101	**Chemistry**	4	2	5

Study of the phyical and chemical properties of substances, chemical changes; elements, compounds, gases, chemical combinations; weights and measurements; theory of metals; acids, bases, salts, solvents, solutions, and emulsions. In addition, study of carbohydrates; electrochemistry, electrolytes, and electrolysis in their application of chemistry to industry.
Prerequisite: T-MAT 101

T-PHY 101 **Physics: Properties of Matter** 3 2 4
A fundamental course covering several basic principles of physics. The divisions included are solids and their characteristics, liquids at rest and in motion, gas laws and applications. Laboratory experiments and specialized problems dealing with these topics are part of this course.
Prerequisite: None

T-PHY 102 **Physics: Work, Energy, Power** 3 2 4
Major areas covered in this course are work, energy, and power. Instruction includes such topics as statics, forces, center of gravity and dynamics. Units of measurement and their applications are a vital part of this course. A practical approach is used in teaching students the use of essential mathematical formulas.
Prerequisites: T-MAT 101, T-PHY 101

T-PHY 103 **Physics: Electricity** 3 2 4
Basic theories of electricity, types of electricity, methods of production, and transmission and transforming of electricity. Electron theory, electricity by chemical action, electricity by friction, electricity by magnetism, induction voltage, amperage, resistance, horsepower, wattage, and transformers are major parts of the course.
Prerequisites: T-MAT 101, T-PHY 101

T-PHY 104 **Physics: Light and Sound** 3 2 4
A survey of the concepts involving wave motion leads to a study of sound, its generation, transmission and detection. The principles of wave motion also serve as an introduction to a study of light, illumination and the principles involved in optical instruments. Application is stressed throughout.
Prerequisites: T-MAT 101, T-PHY 101

T-PHY 106 **Applied Mechanics** 5 0 5
Concepts and principles of statics and dynamics. Parallel concurrent and noncurrent force systems in coplanar and noncoplanar situations. Concepts of centroids and center of gravity,

moments of inertia, fundamentals of kinetics, and kinematics of velocity and motion.
Prerequisites: T-MAT 103, T-PHY 102

T-PHY 209 **Thermodynamics** 3 0 3
A basic course to familiarize the student with the principles of thermodynamics. Topics include heat, temperature, work and the first and second laws of thermodynamics, with basic applications. Gases, vapor cycles, combustion and the internal combustion engine are studied.
Corequisite: T-PHY 102

T-PHY 231 **Fluid Mechanics** 3 0 3
Fundamental laws of fluid flow and application of these laws to the sizing of hot and cold water piping, steam piping, refrigerant piping, air ducts, pumps, and fans. Particular emphasis will be directed to calculations of capacity, horsepower, and head requirements of pumps and fans; to comparison of the several methods of piping and air duct sizing; and to methods of fluid flow measurement.
Prerequisites. T-MAT 103, T-PHY 102

POLICE SCIENCE

	Title of Course	Course Hours Per Week Class	Lab.	Quarter Hours Credit
T-PSC 101	**Introduction to Law Enforcement**	5	0	5

A general course designed to familiarize the student with a philosophy and history of law enforcement, including its legal limitations in a democratic republic, a survey of the primary duties and responsibilities of the various law enforcement agencies, a delineation of the basic processes of justice, an evaluation of law enforcement's current position, and an orientation relative to law enforcement as a vocation.
Prerequisite: None.

T-PSC 110 **Police Role in Crime and Delinquency** 5 0 5
The study primarily concerned with scientific efforts to understand crime and to understand man in relation to crime phenomena. It deals with those definitions and formulations of crime and criminals upon which an adaptation system of criminology must be based. It examines the law as the basic framework within which social deviations of a peculiar character assume their functions as criminal acts and those broad principles upon which a science of criminology must rest.
Prerequisite: None.

T-PSC 115 **Criminal Law** 5 0 5
Designed to present a basic concept of criminal law and create an apreciation of the rules under which one lives in our system of government.
Prerequisite: None.

T-PSC 201 **Traffic Planning and Management** 4 2 5
A study which covers the history of the traffic enforcement problem and gives an overview of the problem as it exists today. Attention will be given to the 3 E's and legislation, the organization of the traffic unit, the responsibilities to the traf-

fic function of the various units within the law enforcement agency, enforcement tactics, evaluation of the traffic program effectiveness, and the allocation of men and materials.
Prerequisite: None.

T-PSC 205 **Criminal Evidence** 5 0 5
Instruction covers the kinds and degrees of evidence and the rules governing the admissibility of evidence in court.
Prerequisite: T-PSC 115.

T-PSC 210 **Criminal Investigation** 5 0 5
This course introduces the student to fundamentals of investigation; crime scene search: recording, collection and preservation of evidence; sources of information; interview and interrogation; case preparation and court presentation; and the investigation of specific offenses such as arson, narcotics, sex, larceny, burglary, robbery and homicide.
Prerequisite: Admission to the program and permission of the instructor-coordinator.

T-PSC 211 **Introduction to Criminalistics** 4 3 5
Continuation of the study of criminal investigation including a general survey of the methods and techniques used in modern scientific investigation of crime, with emphasis upon the practical use of these methods by the students. Laboratory techniques will be demonstrated and the student will participate in actual use of the scientific equipment.
Prerequisite: Admission to the program; permission of instructor-coordinator; satisfactory completion of T-PSC 210.

T-PSC 220 **Police Organization and Administration I** 5 0 5
Introduction to principles of organization and administration, discussion of the service functions; e. g., personnel management, police management, training, communications, records, property maintenance and miscellaneous services.
Prerequisite: None.

T-PSC 225 **Criminal Procedure** 5 0 5
This course is designed to provide the student with a review of court systems; procedures from incident to final disposition; principles of constitutional, federal, state and civil laws as they apply to and affect law enforcement.
Prerequisite: None.

T-POL 102 **Government—National** 5 0 5
English and colonial background, the Articles of Confederation and the framing of the federal constitution. The nature of the federal union; state rights, federal powers, political parties. The general organization and functioning of the national government.
Prerequisite: None.

T-POL 103 **Government—State and Local** 5 0 5
A study of state and local government, state-federal interrelationship, the functions and prerogatives of the branches. Problems of administration, legal procedures, law enforcement, police power, taxation, revenues and appropriations. Special attention will be given to North Carolina.
Prerequisite: T-POL 102.

T-POL 201 **United States Government** 3 0 3
A study of government with emphasis on basic concepts, structure, powers, procedures and problems.
Prerequisite: None.

PSYCHOLOGY

	Title of Course	Course Hours Per Week Class	Lab.	Quarter Hours Credit
T-PSY 102	**General Psychology**	5	0	5

A study of the various fields of psychology; the developmental process; motivation; emotion; frustration and adjustment; mental health; attention and perception; problems of group living. Attention is given to applications of these topics, to problems of study, self-understanding and adjustment to the demands of society.
Prerequisite: None.

T-PSY 103 **Adolescent Psychology** 5 0 5
A study of the nature and source of the problems of adolescents in western culture; physical, emotional, social, intellectual and personality development of adolescents.
Prerequisite: T-PSY 102.

T-PSY 206 **Applied Psychology** 3 0 3
A study of the principles of psychology that will be of assistance in the understanding of inter-personal relations on the job. Motivation, feelings and emotions are considered with particular reference to on-the-job problems. Other topics investigated are: employee selection, supervision, job satisfaction, and industrial conflicts. Attention is also given to personal and group dynamics so that the student may learn to apply the principles of mental hygiene to his adjustment problems as a worker and a member of the general community.
Prerequisite: None.

T-PSY 112 **Personality Development** 3 0 3
Designed to help the student recognize the importance of the physical, intellectual, social, and emotional dimensions of personality. Emphasis is placed on grooming and methods of personality improvement.
Prerequisite: None

SOCIOLOGY

T-SOC 102 **Principles of Sociology** 5 0 5
An introductory course in the principles of sociology. An attempt to provide an understanding of culture, collective behavior, community life, social institutions and social change. Presents the scientific study of man's behavior in relation to other men, the general laws affecting the organization of such relationships and the effects of social life on human personality and behavior.

SOCIAL SCIENCE

	Title of Course	Course Hours Per Week Class	Lab.	Quarter Hours Credit
T-SSC 201	**Social Science**	3	0	3
	An integrated course in the social sciences, drawing from the fields an anthropology, psychology, history, and sociology. Prerequisite: None			
T-SSC 202	**Social Science**	3	0	3
	A further study of social sciences with emphasis on economics, political science, and social problems as they relate to the individual. Prerequisite: T-SSC 201			
T-SSC 205	**American Institutions**	3	0	3
	A study of the effect of American social, economic, and political institutions upon the individual as a citizen and as a worker. The course dwells upon current local, national, and global problems viewed in the light of our political and economic heritage. Prerequisite: None			
T-SOC 207	**Rural Society**	3	0	3
	A study of selected elements of rural sociology with emphasis on current social changes. The course provides a sociological background for the understanding of rural social changes. Areas of study include rural culture, group relationships, social classes, rural and suburban communities, farm organizations, the communication of agricultural technology, rural social problems, agricultural adjustment and population change. Prerequisite: None			

VOCATIONAL PROGRAM

Admission Reqquirements

To be admitted to the Vocational Program, the applicant must meet the following qualifications:

1. Be at least eighteen years of age.
2. Have mechanical and physical aptitude necessary for the program he is undertaking. This will be determined by special tests.
3. Show ability to profit by instruction offered.
4. Submit a transcript of school work completed.

AUTOMOTIVE MECHANIC

Purpose of Curriculm

This Curriculm provides a training program for developing the basic knowledge and skill needed to inspect, diagnose, repair or adjust automotive vehiciles. Manual skills are developed in practical shop work. Thorough understanding of the operating principles involved in the modern automobile comes in class assignments, discussion, and shop practice.

Complexity in automotive vehicles increases each year because of scientific discovery and new engineering. These changes are reflected not only in passenger vehicles, but also in trucks, buses and a variety of gasoline-powered equipment. This curriculum provides a basis for the student to compare and adapt to new techniques for servicing and repair as vehicles are changed year by year.

Job Description

Automobile mechanics maintain and repair mechanical, electrical, and body parts of passenger cars, trucks and buses. In some cammunities and rural areas they also may service tractors or marine engines and other gasoline powered equipment. Mechanics inspect and test to determine the cause of faulty operation. They repair or replace defective parts to restore the vehicle or machine to proper operating condition. They use shop manuals and other technical publications.

Automotive mechanics in smaller shops usually are general mechanics qualified to perform a variety of repair jobs. A large number of automobile mechanics specialize in particular types of repair work. For example, some may specialize in repairing only power steering and power brakes, or automatic transmissions. Usually such specialists have an all-round knowledge of automotive repair and may occasionally be called upon to do other types of work.

AUTOMOTIVE

SUGGESTED CURRICULUM BY QUARTERS

Course Title			Hours Per Week Class	Lab.	Quarter Hours Credit
FIRST QUARTER					
PME	1101	Internal Combustion Engines	3	12	7
MAT	1101	Fundamentals of Mathematics	5	0	5
ENG	1101	Reading Improvement	2	0	2
PHY	1101	Applied Science	3	2	4
			13	14	18
SECOND QUARTER					
PME	1102	Engine Electrical and Fuel Systems	5	12	9
ENG	1102	Communication Skills	3	0	3
DFT	1101	Schematics and Diagrams: Power Mechanics	0	3	1
PHY	1102	Applied Science	3	2	4
			11	17	17

THIRD QUARTER					
AUT	1123	Automotive Chassis and Suspensions Systems	3	9	6
AUT	1121	Braking Systems	3	3	4
PSY	1101	Human Relations	3	0	3
AHR	1101	Automotive Air Conditioning	2	3	3
WLD	1101	Basic Gas Welding	0	3	1
			11	18	17
FOURTH QUARTER					
AUT	1124	Automotive Power Train Systems	3	9	6
AUT	1125	Automotive Servicing	3	9	6
BUS	1103	Small Business Operations	3	0	3
			3	18	15

ELECTRONIC SERVICING

Purpose of Curriculum

Within recent years improved electronic techniques have provided expanded entertainment and educational facilities in the form of monochrome and color television, frequency modulated radio, high fidelity amplifiers and stereophonic sound equipment. These developments require expanded knowledge and skill of the individual who would qualify as a competent and up-to-date serviceman.

This curriculum guide provides a training program which will provide the basic knowledge and skills involved in the installation, maintenance and servicing of radio, television and sound amplifier systems. A large portion of time is spent in the laboratory verifying electronic principles and developing servicing techniques.

Job Description

A radio and television serviceman may be required to install, maintain and service amplitude modulated and frequency modulated home and auto radios, transistorized radios, monochrome and color television sets, intercommunication, public address and paging systems, high fidelity and stereophonic amplifiers, record players and tape recorders.

His work will require meeting the public both in the repair shop and on service calls. A serviceman who establishes his own business will also need to know how to maintain business records and inventory.

ELECTRONIC SERVICING

SUGGESTED CURRICULUM BY QUARTERS

		Course Title	Course Hours Per Week Class	Lab.	Shop Prac.	Quarter Hours Credit
FIRST QUARTER						
MA	1125	Electrical Mathematics	5	0	0	5
ELEC	1122	Direct and Alternating Current	7	8	3	12
ENG	1101	Reading Improvement	2	0	0	2
			14	8	3	19

SECOND QUARTER						
ELN	1122	Vacuum Tubes and Circuits	5	10	0	10
ELN	1123	Amplifier Systems	2	0	6	4
ENG	1102	Communication Skills	2	0	0	2
SOC	1101	Human Relations	2	0	0	2
			11	10	6	18
THIRD QUARTER						
ELN	-1124	Vacuum Tubes and Circuits	4	4	0	6
ELN	1125	Radio Receiver Servicing	2	0	6	4
ELN	1126	Transistor Theory and Circuits	5	4	0	7
SOC	1103	Management Procedures	3	0	0	3
			14	8	6	20
FOURTH QUARTER						
ELN	1127	Television Receiver Circuits and Servicing	10	0	15	15
or			10	0	15	15
ELN	1128	Television Receiver Circuits and Servicing	5	0	12	9
		Elective (1)	5	0	6	7
			10	0	18	16
ELECTIVE						
ELN	1129	Single Side-band Systems	5	0	6	7
ELN	1130	Two-way Mobile Maintenance	5	0	6	7

HEAVY EQUIPMENT OPERATOR

(Earth Moving)

(3 Or 6 Months)

The purpose of this program is to prepare well-trained operators of heavy earth moving equipment for the many opportunities which now exists and will continue to exist for many years to come.

Students are admitted to classes the first Monday of each month. They may elect to study the functional operation of three pieces of equipment for three months or the operation of six pieces of equipment for six months. Operators may choose a major specialty from pull shovel, backhoe, crawler-type tractor, motor grader, scraper, shovel, dragline or clamshell. All instruction will be based on practical experience in the care and operation of this equipment.

A basic three months program consists of a total of 360 hours. Sixty hours will be devoted to the related study of the practical use of mathematics, communications and human relations; and three hundred hours will be devoted to the study and actual operation of heavy earth moving equipment elected by the student.

COURSE OUTLINE

Program #1

A. CRAWLER TRACTOR

a) Pushing

Program #2

A. DRAGLINE

a) Ditching

b) Bulldozing
c) Ditching
d) Sloping
e) Loading

B. MOTOR GRADER
a) Scarifying
b) Sloping
c) Ditching
d) Mixing
e) Finishing

C. MOTOR SCRAPER
a) Loading
b) Dumping
c) Ditching
d) High Speed

b) Sloping
c) Casting
d) Loading

B. BACKHOE
a) Ditching
b) Excavating
c) Loading
d) Pipe Work

C. SHOVEL
a) Loading
b) Leveling
c) Pit Control

MACHINE SHOP OPERATOR

Purpose of Curriculum

This curriculum was prepared to meet a definite need for training of machinists. Surveys recently completed in North Carolina show that many of the existing industries lack time and facilities for training enough machinists to meet present and planned needs. Expanding industries already located in our State and new industries under development invariably express the need for skilled craftsmen who have the background knowledge and potential to advance.

This guide is designed to give learners the opportunity to acquire basic skills and the related technical information necessary to gain employment and build a profitable career in the machine shop industry in the State. It is comprised of the joint views of committees responsible for its development.

Job Description

The machinist is a skilled metal worker who shapes metal parts by using machine tools and hand tools. His training and experience enabled him to plan and carry through all the operations needed in turning out a machined produce and to switch readily from one kind of product to another. A machinist is able to select the proper tools and material required for each job and to plan the cutting and finishing operations in their proper order so that he can complete the finished work according to blueprint or written specifications. He makes standard shop computations relating to dimensions of work, tooling, feeds, and speeds of machining. He often uses precision measuring instruments such as micrometers and gages to measure the accuracy of his work to thousandths of an inch.

This skilled worker must be able to set up and operate most

types of machine tools. The machinist also must know the composition of metals so that he can heat and quench cutting tools and parts to improve machinability. His wide knowledge enables him to turn a block of metal into an intricate, precise part.

MACHINE SHOP OPERATOR

SUGGESTED CURRICULUM BY QUARTERS

Course		Title	Hours Per Week Class	Lab.	Quarter Hours Credit
FIRST QUARTER					
MEC	1101	Machine Shop Theory and Practice	3	12	7
MAT	1101	Fundamentals of Mathematics	5	0	5
DFT	1104	Blueprint Reading: Mechanical	0	3	1
ENG	1104	Reading Improvement	2	0	2
PHY	1101	Applied Science	3	2	4
			13	17	19
SECOND QUARTER					
MEC	1102	Machine Shop Theory and Practice	3	12	7
MAT	1103	Geometry	3	0	3
DFT	1105	Blueprint Reading: Mechanical	0	3	1
PHY	1102	Applied Science	3	2	4
ENG	1102	Communication Skills	3	0	3
			12	17	18
THIRD QUARTER					
MEC	1103	Machine Shop Theory and Practice	3	12	7
MEC	1115	Treatment of Ferrous Metals	2	3	3
DFT	1106	Blueprint Reading: Mechanical	0	3	1
MAT	1104	Trigonometry	3	0	3
PSY	1101	Human Relations	3	0	3
			11	18	17
FOURTH QUARTER					
MEC	1104	Machine Shop Theory and Practice	3	12	7
MEC	1116	Treatment of Non-Ferrous Metals	2	3	3
WLD	1101	Basic Gas Welding	0	3	1
MAT	1123	Machinist Mathematics	3	0	3
BUS	1105	Industrial Organizations	3	0	3
			11	18	17

PRACTICAL NURSING

The primary objective of the Practical Nurse Education Program is to train persons to fill the existing needs in our hospitals, nursing homes, medical centers, and home nursing. In addition, the Practical Nurse receives training in the care of patients of all ages and various stages of dependency.

Selection of participants in this program is based on a demonstrated aptitude for nursing: pre-entrance interview with school officials, high school record, and evidence of good physical and mental health.

During this one-year program, the student is expected to acquire knowledge and understanding related to nursing, the biological sciences, and the social sciences. Evidence of their knowledge is demonstrated through laboratory experiences, communications, and the practical application of nursing principles through hospital training. Evaluation of a student's progress is done through testing and personal observation.

Graduates of this accredited program are eligible to take the licensing examination given by the North Carolina Board of Nurse Registration and Nursing Education, Enlarged. A passing score entitles the individual to receive a license and use the legal title of "Licensed Practical Nurse."

Clinical experience is provided by agreement with Wilson Memorial Hospital, Park View Hospital, and Edgecombe General Hospital.

QUALIFICATIONS FOR ADMISSION

1. Between 18 and 50 years of age on date of admission.
2. Good physical and mental health as established by examination.
3. Successful completion of one year of high school or equivalent.
4. Satisfactory grade on all entrance tests.
5. Be a citizen of the United States or declared an intent of becoming a citizen.
6. Good character and personality as established by interview and references and accepted by the Admission Committee.

PRACTICAL NURSING

SUGGESTED CURRICULUM BY QUARTERS

Course Title	Hours Per Week Class*	Lab.*	Quarter Hours Credit
FIRST QUARTER			
NUR 1001 Practical Nursing I	28	2	330
SECOND QUARTER			
NUR 1002 Practical Nursing II	12	24	396
THIRD QUARTER			
NUR 1003 Practical Nursing III	12	24	396
FOURTH QUARTER			
NUR 1004 Practical Nursing IV	12	24	396
Total			1512

WELDING

Purpose of Curriculum

This curriculum was developed to fill the tremendous need for welders in North Carolina. The recently completed Manpower Survey shows quite clearly that many welders will be needed annually to fill present and projected vacancies in the State.

The content of this curriculum is designed to give students sound understanding of the principles, methods, techniques and skills essential for successful employment in the welding field and metals industry.

The field of welding offers a person prestige, security and a future of continuous employment with steady advancement. It offers employment in practically any industry: shipbuilding, automotive, aircraft, guided missiles, railroads, construction, pipe fitting, production shop, job shop and many others.

Job Description

Welders join metals by applying intense heat, and sometimes pressure, to melt the edges to form a permanent bond. Closely related to welding is "oxygen cutting." Of the more than 35 different ways of welding metals, arc, gas, and resistance welding are the three most important.

The principal duty of the welder using manual techniques is to control the melting by directing the heat from either an electric arc or gas welding torch, and to add filler metal where necessary to complete the joint. He should possess a great deal of manipulative skill with a knowledge of jigs, welding symbols, mathematics, basic metallurgy, and blueprint reading.

WELDING

SUGGESTED CURRICULUM BY QUARTERS

Course		Title	Hours Per Week Class	Lab.	Quarter Hours Credit
FIRST QUARTER					
WLD	1120	Oxyacetylene Welding and Cutting	3	12	7
MAT	1101	Fundamentals of Mathematics	5	0	5
DFT	1104	Blueprine Reading: Mechanical	0	3	1
PHY	1101	Applied Science	3	2	4
ENG	1101	Reading Improvement	2	0	2
			13	17	19
SECOND QUARTER					
WLD	1121	Arc Welding	3	12	7
MAT	1103	Geometry	3	0	3
DFT	1117	Blueprine Reading: Mechanical	0	3	1
PHY	1102	Applied Science	3	2	4
ENG	1102	Communication Skills	3	0	3
			12	17	8

THIRD QUARTER

WLD	1124	Pipe Welding	3	12	7
WLD	1123	Inert Gas Welding	1	3	2
WLD	1112	Mechanical Testing and Inspection	1	3	2
DFT	1118	Pattern Development and Sketching	0	3	1
PSY	1101	Human Relations	3	0	3
			8	21	15

FOURTH QUARTER

WLD	1122	Commercial and Industrial Practices	3	9	6
WLD	1125	Certification Practices	3	6	5
MEC	1112	Machine Shop Processes	0	6	2
BUS	1105	Industrial Organizations	3	0	3
			9	21	16

VOCATIONAL COURSES

OUTLINE

AUTOMOTIVE

	Title of Course	Course Hours Per Week Class	Lab.	Quarter Hours Credit
AHR 1101	**Automotive Air Conditioning**	2	3	3

General introduction to the principles of refrigeration; study of the assembly of the components and connections necessary in the mechanisms, the methods of operation, and control; proper handling of refrigerants in charging the system.
Prerequisite: PHY 1102

AUT 1121	**Braking Systems**	3	3	4

A complete study of various braking systems employed on automobiles and light weight trucks. Emphasis is placed on how they operate, proper adjustment, and repair.
Prerequisite: PHY 1102

AUT 1123	**Automotive Chassis and Suspension Systems**	3	9	6

Principles and functions of the components of automotive chassis. Practical job instruction in adjusting and repairing of suspension, and steering systems. Units to be studied will be shock absorbers, springs, steering system, steering linkage, and front end alignment.
Prerequisite: PME 1102

AUT 1124	**Automotive Power Train Systems**	3	9	6

Principles and functions of automotive power train systems: clutches, transmission gears, torque converters, drive shaft assemblies, rear axles and differentials. Identification of troubles, servicing, and repair.
Prerequisites: PHY 1102, AUT 1123

AUT 1125	**Automotive Servicing**	3	9	6

Emphasis is on the shop procedures necessary in determining the nature of troubles developed in the various component systems of the automobile. Troubleshooting of automotive systems, providing a full range of experiences in testing, adjusting, repairing and replacing.
Prerequisites: AUT 1123, AUT 1121, AHR 1101

BUSINESS

BUS 1103 **Small Business Operations** 3 0 3
An introduction to the business world, problems of small business operation, basic business law, business forms and records, financial problems, ordering and inventorying, layout of equipment and offices, methods of improving business, and employer-employee relations.
Prerequisite: None

BUS 1105 **Industrial Organizations** 3 0 3
Methods, techniques, and practices of modern management in planning, organizing and controlling operations of a manufacturing concern. Introduction to the competitive system and the factors constituting product cost.
Prerequisie: None

DRAFTING

DFT 1101 **Schematics & Diagrams: Power Mechanics** 0 3 1
Interpretation and reading of blueprints. Development of ability to read and interpret blueprints, charts, instruction and service manuals, and wiring diagrams. Information on the basic principles of lines, views, dimensioning procedures, and notes.
Prerequisie: None

DFT 1104 **Blueprint Reading: Mechanical** 0 3 1
Interpretation and reading of blueprints. Information on the basic principles of the blueprint; lines, views, dimensioning procedures and notes.
Prerequisie: None

DFT 1105 **Blueprint Reading: Mechanical** 0 3 1
Further practice in interpretation of blueprints as they are used in industry; study of prints supplied by industry; making plans of operations; introduction to drafting room procedures; sketching as a means of passing on ideas, information and processes.
Prerequisite: DFT 1104

DFT 1106 **Blueprint Reading: Mechanical** 0 3 1
Advanced blueprint reading and sketching as related to detail and assembly drawings used in machine shops. The interpretation of drawings of complex parts and mechanisms for features of fabrication, construction and assembly.
Prerequisite: DFT 1105

DFT 1117 **Blueprint Reading: Welding** 0 3 1
A thorough study of trade drawings in which welding procedures are indicated. Interpretation, use and application of welding symbols, abbreviations, and specifications.
Prerequisite: DFT 1104

ELECTRICITY

ELEC 1122 **Direct and Alternating Current** 7 8 3 12
A study of the structure of matter and the electron theory, the relationship between voltage, current and resistance in series, parallel and series-parallel circuits. Analysis of direct current circuits by Ohm's law and Kirchhoff's law; sources of direct current potentials. Fundamental concepts of alternating current flow; a study of reactance, impedance, phase angle,

power and resonance and alternating current circuit analysis.
Prerequisite: None

ELECTRONIC

ELN 1122 **Vacuum Tubes and Circuits** **5 10 0 10**
An introduction to vacuum tubes and their development; the theory, characteristics and operation of vacuum diodes, semiconductor diodes, rectifier circuits, filter circuits, diodes and simple voltage amplifier circuits.
Prerequisite: ELEC 1122, MA 1125

ELN 1123 **Amplifier Systems** **2 0 6 4**
An introduction of commonly used servicing techniques as applied to monophonic and stereophonic high fidelity amplifier systems and auxiliary equipment. The operation and servicing of inter-communication amplifiers and switching circuits will also be taught.
Prerequisite: MA 1125, ELEC 1122

ELN 1124 **Vacuum Tubes and Circuits** **4 4 0 6**
A continuing study of tubes and circuits; the theory, characteristics, and operation of the tetrode and pentode tubes, voltage and power amplifiers, tunable RF amplifiers, oscillators and demodulator circuits.
Prerequisite: ELN 1123, ELN 1122

ELN 1125 **Radio Receiver Servicing** **2 0 6 4**
Principles of radio reception and practices of servicing; included are block diagrams of radio receivers, servicing techniques of AM and FM receivers by resistance measurements, signal injection, voltage analysis, oscilloscope methods of locating faulty stages and components and the alignment of AM and FM receivers.
Prerequisite: ELN 1123, ELN 1122

ELN 1126 **Transistor Theory and Circuits** **5 4 0 7**
Transistor theory operation characteristics and their application to audio and radio frequency amplifier and oscillator circuits.
Prerequisite: ELN 1123

ELN 1127 **Television Receiver Circuits and Servicing** **10 0 15 15**
A study of principles of television receivers, alignment of radio and intermediate frequency amplifiers, adjustment of horizontal and vertical sweep circuits will be taught. Techniques use of associated test equipment will be stressed. Additional of troubleshooting and repair of TV receivers with the proper study of more specialized servicing techniques and oscilloscope waveform analysis will be used in the adjustment, troubleshooting and repair of the color television circuits.
Prerequisites: ELN 1126, ELN 1125

ELN 1128 **Television Receiver Circuits and Servicing** **5 0 12 9**
This course, taught in conjunction with an elective, will be a shortened version of ELN 1127.
Prerequisites: ELN 1126, ELN 1125

ELECTIVE:

ELN 1129 **Single Side-band Systems** 5 0 6 7
An introductory course of single side-band transmission system with carrier frequency or without and the associated balanced modulator of phasing system used to produce this type of transmission. Time will be allotted also to the necessary circuitry in the receiver to receive this type transmission.
Prerequisites: ELN 1126, ELN 1125

ELN 1130 **Two-way Mobile Maintenance** 5 0 6 7
A course to acquaint the student with the theory and maintenance of fixed station and mobile station transmitters and-receivers. Except for radio laws, sufficient information will be given to qualify the student to take the FCC second class radiotelephone license examination.
Prerequisites: ELN 1126, ELN 1125

DRAFTING

Course Title	Hours Per Week Class	Lab.	Quarter Hours Credit
DFT 1118 **Pattern Development and Sketching**	0	3	1

Continued study of welding symbols; methods used in layout of sheet steel: sketching of projects, jigs and holding devices involved in welding. Special emphasis is placed on developing pipe and angle layouts by the use of patterns and templates.
Prerequisite: None.

ENGLISH

ENG 1101 **Reading Improvement** 2 0 2
Designed to improve the student's ability to read rapidly and accurately. Special machines are used for class drill to broaden the span of recognition, to increase eye coordination and word group recognition and to train for comprehension in larger units.
Prerequisite: None.

ENG 1102 **Communication Skills** 3 0 3
Designed to promote effective communication through correct language usage in speaking and writing.
Prerequisite: ENG 1101

MATHEMATICS

MAT 1101 **Fundamentals of Mathematics** 5 0 5
Practical number theory. Analysis of basic operations: addition, subtraction, multiplication and division. Fractions, decimals, powers and roots, percentages, ratio and proportion. Plane and solid geometric figures used in industry; measurement of surfaces and volumes. Introduction to algebra used in trades. Practice in depth.
Prerequisite: None

MAT 1103 **Geometry** 3 0 3
Fundamental properties and definitions; plane and solid geometric figures, selected general theorems, geometric construction of lines, angles and plane figures. Dihedral angles, areas of plane figures, volumes of solids. Geometric principles are

applied to shop operations.
Prerequisite: None

MAT 1104 **Trigonometry** 3 0 3
Trigonometric ratios; solving problems with right triangles, useing tables, and interpolating; solution of oblique triangles useing law of sines and law of cosines; graphs of the trigonometric functions; inverse functions, trigonometric equations. All topics are applied to practical problems.
Prerequisites: MAT 1103

MAT 1123 **Machinist Mathematics** 3 0 3
Introduces gear ratio, lead screw and indexing problems with emphasis on application to the machine shop. Practical applications and problems furnish the trainee with experience in geometric propositions and trigonometric relations to shop problems; concludes with an introduction to compound angle problems.
Prerequisite: MAT 1104

MAT 1125 **Electrical Mathematics** 5 0 0 5
An introduction algebra course with trigonometry and vectors needed in alternating current: algebraic opeations of addition, subtraction, multiplication and division; use of letters and signs, grouping, factoring; exponents, ratios and proportions; algebraic and graphic solutions of first-degree equations; introduction to trigonometric functions, their graphs and applications to right triangles. Addition, subtraction and resolution of vector quantities.
Prerequisite: None

NURSING

Course Title	Hours Per Week Class	Lab.	Quarter Hours Credit
FIRST QUARTER			
NUR 1001 **Practical Nursing I**	28	2	330

Designed to assist students in acquiring the knowledge, understandings, appreciations, and attitudes basic to effective nursing of patients of all ages and backgrounds. Emphasis is on nursing needs arising both from the individuality of the patient and from inability for self-care as a result of a health deviation. Patient-centered studies include analysis of patient needs, both through classroom study of hypothetical patient situations and through planned experiences in the clinical environment. Beginning skills in nursing methods are developed through planned laboratory practice and supervised patient care.

SECOND QUARTER
NUR 1002 **Practical Nursing II** 2 24 396
Designed to introduce the student to deviations from normal, to nursing methods and therapeutic procedures, and to the clinical specialties. Continued patient-centered study, with introduction of the illness condition as an additional source of nursing needs. Increased emphasis on clinical activities and selected patient care.

THIRD QUARTER
NUR 1003 **Practical Nursing III** 12 24 396
Designed to acquaint the student with common illness conditions, related nursing needs and therapeutic methods, and role

of the practical nurse in care of patients with specific conditions. Learning situations are selected to illustrate commonalities with a wide variety of similar conditions and to promote student awareness of similarities and differences. Clinical practice emphasizes student experience in care of subacutely ill patients with a wide variety of illnesses, correlated with classroom studies insofar as possible.

FOURTH QUARTER

NUR 1004 **Practical Nursing IV** 12 24 396
Designed to introduce the student to care of patients with complex nursing needs and to the assisting role of the practical nurse in situations requiring judgments based on depth of knowledge. Clinical practice includes supervised care of labor patients and seriously ill adults and children.

PHYSICS

PHY 1101 **Applied Science** 3 2 4
An introduction to physical principles and their application in industry. Topics in this course include measurement; properties of solids, liquids, and gases; basic electrical principles.
Prerequisite: None

PHY 1102 **Applied Science** 3 2 4
The second in a series of two courses of applied physical principles. Topics introduced in this course are heat and thermometry, and principles of force, motion, work, energy, and power.
Prerequisite: PHY 1101

PME 1101 **Internal Combustion Engine** 3 12 7
Development of a thorough knowledge and ability in using, maintaining, and storing the various hand tools and measuring devices needed in engine repair work. Study of the construction and operation of components of internal combustion engines. Testing of engine performance; servicing and maintenance of pistons, valves, cams and camshafts, fuel of testing, diagnosing and repairing.
Prerequisite: None

MECHANICAL

MEC 1101 **Machine Shop Theory and Practice** 3 12 7
An introduction to the machinist trade and the potential it holds for craftsman. Deals primarily with the identification, care and use of basic hand tools and precision measuring instruments Elementary layout procedures and processes of lathe, drill press, grinding (off-hand) and milling machines will be introduced both in theory and practice.
Prerequisite: None

MEC 1102 **Machine Shop Theory and Practice** 3 12 7
Advanced operations in layout tools and procedures, power sawing, drill press, surface grinder, milling machine shaper. The student will be introduced to the basic operations on the cylindrical grinder and will select projects encompassing all the operations, tools and procedures thus far used and those to be stressed throughout the course.
Prerequisite: MEC 1101

MEC 1103 **Machine Shop Theory and Practice 3 12 7**
Advanced work on the engine lathe, turning, boring and threading machines, grinders, milling machine and shaper. Introduction to basic indexing and terminology with additional processes or calculating, cutting and measuring of spur, helical, and worm gears and wheels. The trainee will use precision tools and measuring instruments such as vernier height gages, protractors, comparators, etc. Basic exercises will be given on the turret lathe and on the tool and cutter grinder.
Prerequisites: MEC 1102

MEC 1104 **Machine Shop Theory and Practice 3 12 7**
Development of class projects using previously learned procedures in planning, blueprint reading, machine operations, final assembly and inspection. Additional processes on the turret lathe, tool and cutter grinder, cylindrical and surface grinder, advanced milling machine operations, etc. Special procedures and operations, processes and equipment, observing safety procedures faithfully and establishing of good work habits and attitudes acceptable to the industry.
Prerequisites. MEC 1103

MEC 1112 **Machine Shop Processes 0 6 2**
To acquaint the student with the procedures of layout work and the correct use of hand and machine tools. Experiences in the basic fundamentals of drill press and lathe operation; hand grinding of drill bits and lathe tools; set-up work applied to the trade.
Prerequisite: None

MEC 1115 **Treatment of Ferrous Metals 2 3 3**
Investigates the properties of ferrous metals and tests to determine their uses. Instructions will include some chemical metallurgy to provide a background for the understanding of the physical changes and causes of these changes in metals. Physical metallurgy of ferrous metals, producing iron and steel, theory of alloys, shaping and forming, heat treatments for steel, surface treatments, alloy of special steel, classification of steels, and cast iron will be topics for study.
Prerequisite: None

MEC 1116 **Treatment of Non-Ferrous Metals 2 3 3**
Continuation of the study of physical metallurgy. The non-ferrous metals: bearing metals, (brass, bronze, lead), light metals (aluminum and magnesium), and copper and its alloys are studied. Powder metallurgy, titanium, zirconium, indium and vanadium are included in this course.
Prerequisite: MEC 1115

POWER MECHANICS

PME 1102 **Engine Electrical and Fuel Systems 5 12 9**
A thorough study of the electrical and fuel systems of the automobile. Battery cranking mechanism, generator, ignition, accessories and wiring; fuel pumps, carburetors, and fuel injectors. Characteristics of fuels, types of fuel systems, special tool, and testing equipment for the fuel and electrical system.
Prerequisite: PME 1101

SOCIAL SCIENCE

PSY 1101 **Human Relations** 3 0 3
A study of basic principles of human behavior. The problems of the individual are studied in relation to society, group membership, and relationships within the work situation.
Prerequisite: None

SOC 1103 **Management Procedures** 3 0 0 3
An introduction to the business world, problems of small business operation, basic business law, business forms and records, financial problems, ordering and inventorying, layout of equipment and offices, methods of improving business, and employer-employee relations.
Prerequisite: None

WELDING

WLD 1101 **Basic Gas Welding** 0 3 1
Welding demonstrations by the instructor and practice by students in the welding shop. Safe and correct methods of assembling and operating the welding equipment. Practice will be given for surface welding; bronze welding, silver soldering, and flame-cutting methods applicable to mechanical repair work.
Prerequisite: None

WLD 1112 **Mechanical Testing and Inspection** 1 3 2
The sandard methods for mechanical testing of welds. The student is introduced to the various types of tests and testing procedures and performs the details of the test which will give adequate information as to the quality of the weld. Types of tests to be covered are: bend, destructive, free-bend, guided-bend, nick-tear, notched-bend, tee-bend, nondestructive, V-notch, Charpy impact, etc.
Prerequisites: WLD 1120, WLD 1121

WLD 1120 **Oxacetylene Welding and Cutting** 3 12 7
Introduction to the history of oxyacetylene welding, the principles of welding and cutting, nomenclature of the equipment, assembly of units. Welding procedures such as practice of puddling and carrying the puddle, running flat beads, butt welding in the flat, vertical and overhead position, brazing, hard and soft soldering. Safety procedures are stressed throughout the program of instruction in the use of tools and equipment. Students perform mechanical testing and inspection to determine quality of the welds.
Prerequisite: None

WLD 1121 **Arc Welding** 3 12 7
The operation of AC transformers and DC motor generator arc welding sets. Studies are made of welding heats, polarities, and electrodes for use in joining various metal alloys by the arc welding process. After the student is capable of running beads, butt and fillet welds in all positions are made and tested in order that the student may detect his weaknesses in welding. Safety procedures are emphasized throughout the course in the use of tools and equipment.
Prerequisite: None

WLD 1122 **Commercial and Industrial Practices** 3 9 6

Designed to build skills through practices in simulated industrial processes and techniques: sketching and laying out on paper the size and shape description, listing the procedure steps necessary to build the product, and then actually following these directions to build the product. Emphasis is placed on maintenance, repairing worn or broken parts by special welding applications, field welding and nondestructive tests and inspection.

Prerequisites: WLD 1120, WLD 1121

WLD 1123 **Inert Gas Welding** 1 3 2

Introduction and practical operations in the use of inert-gas-shield arc welding. A study will be made of the equipment, operation, safety and practice in the various positions. A thorough study of such topics as: principles of operation, shielding gases, filler rods, process variations and applications, manual and automatic welding.

Prerequisites: WLD 1120, WLD 1121

WLD 1124 **Pipe Welding** 3 12 7

Designed to provide practice in the welding of pressure piping in the horizontal, vertical, and horizontal fixed position using shielded metal arc welding processes according to Sections VIII and IX of the ASME code.

Prerequisite: WLD 1121

WLD 1125 **Certification Practices** 3 6 5

This course involves practice in welding the various materials to meet certification standards. The student uses various tests including the guided bend and the tensile strength tests to check the quality of his work. Emphasis is placed on attaining skill in producing quality welds.

Prerequisites: WLD 1120, WLD 1121, WLD 1123, WLD 1124

.... **Occupational Application** 0 3 1

A study with problem orientation of the inter-relation between curriculum content and actual occupational procedures in the same field. Stress is placed on current problems and their solutions.

EVENING VOCATIONAL PROGRAM

The primary purpose of the Evening Vocational Program is to assist employed adults to improve themselves in their occupational field through upgrading and updating programs. Classes are determined by the number of requests by students or interested industrial groups. The needs of industry and business are met as rapidly as possible.

Most of these classes are held twice a week at night at the Institute from 7 - 10 p. m. In some cases, classes can be arranged to meet in surrounding communities through the Extension Service.

The following list is a sample of the areas of work covered by this program:

Air Conditioning and Refrigeration
Automotive
Business
Drafting
Electrical
Electronics
Mechanical Production
Welding

GENERAL ADULT EDUCATION

Under the General Adult Education and Community Service Program the Institute may offer short courses on any level to assist adults in meeting their educational needs and the development of their cultural, intellectual and social potential.

Within this program, interested persons may have the opportunity for job advancement through the following listed courses, personal satisfaction of self-improvement, or the earning of a high school equivalency diploma through the school's learning laboratory

Adult Elementary Education
Business Education for Personal Use
Civic Education
Music and Fine Arts
Health Education
Homemaking
Informal Discussion Groups
Leadership Training for Civic Responsibility
Speaker and Lecture Series
In-Service Training Programs for Professional Groups
Other Areas as the Need Arises

LEARNING LABORATORY

A programmed Learning Laboratory is available for those persons desiring to improve their present educational level. This facility is equipped with modern teaching machines, texts, programmed materals, and under the supervision of a trained coordinator. In this program, the individual differences of the students are considered by allowing each to progress according to his ability, time and motivation. Upon completion of each level and the attainment of succesful results, the student is allowed to progress to a higher level of study.

The three levels of study in adult education: elementary, intermediate and secondary, allow the student ample opportunity for the enrichment of his education and possibly the earning of a high school equivalency certificate.

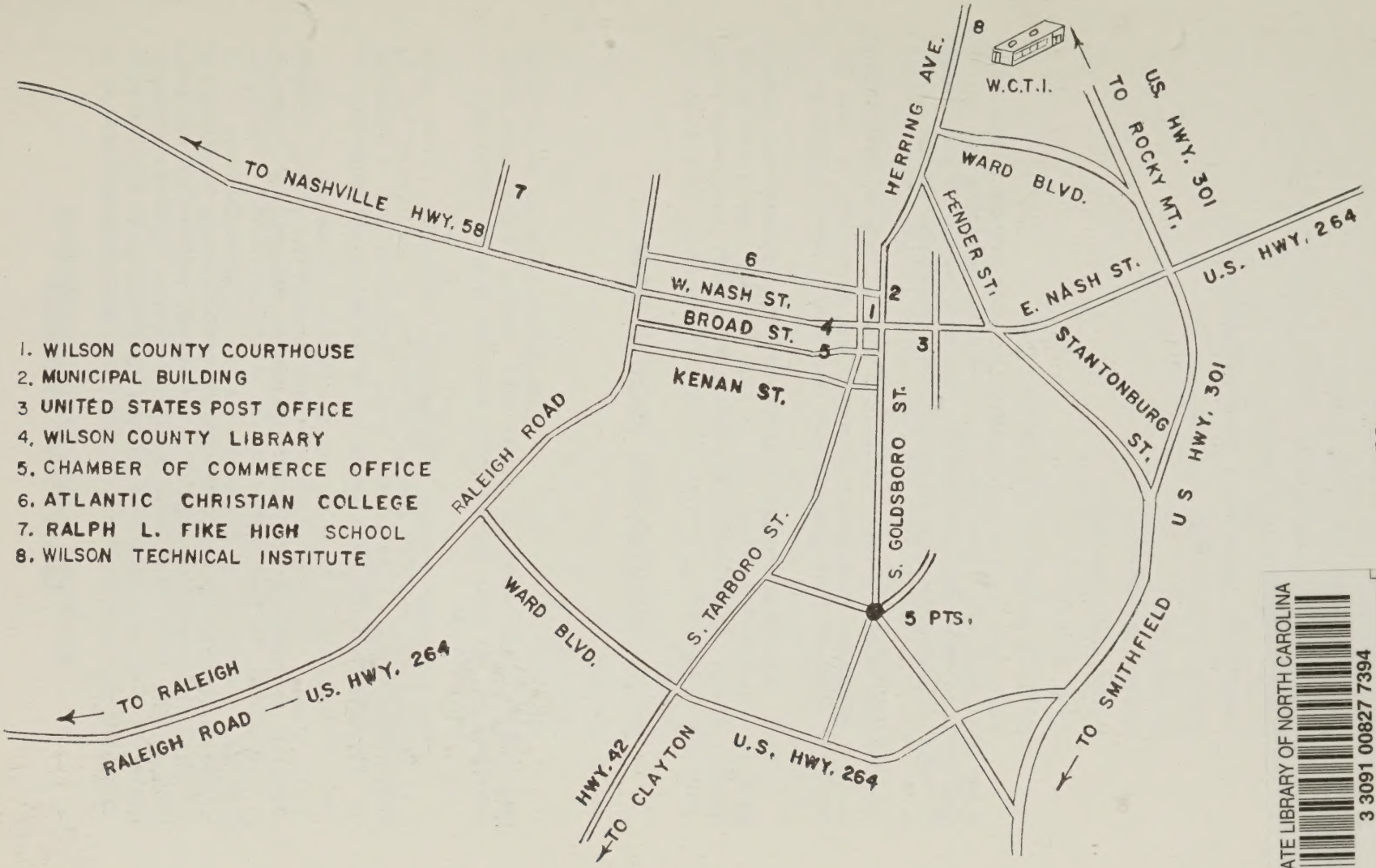
Utilization of this resource can possibly lead to job advancement with higher wages, new fields of endeavor, and personal satisfaction of self-improvement.

HIGH SCHOOL EQUIVALENCY

Within the total program of the Wilson County Technical Institute, opportunity exists for anyone to earn a high school equivalency certificate. This is one of the many opportunities offered through the Learning Laboratory here at the Institute.

A person undertaking this program will first be given diagnostic tests to determine the level at which the individual begins; henceforth, he may study and progress as his time and ability allow.

When an individual has completed the prescribed courses of study and successfully passed an examination, the Institute will certify the successful applicant to the County Superintendent for a high school equivalency certificate.



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